

**STRATEGIC OPERATIONS AND ORGANIZATIONAL PERFORMANCE OF SUGAR
COMPANIES IN WESTERN KENYA**

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the Degree of Masters in Business Administration, School of Business, University of
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DECLARATION

This project paper is my original work and has not been presented for award of a degree in any other University.

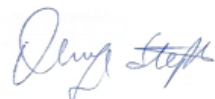
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ABSTRACT

The focus of the study was to assess the effect strategic operations applications on the organizational performance. Specifically, the study focused on finding out the effects of product reengineering, product development and operation risk mitigation on the organizational performance of western sugar companies. The study adopted a descriptive survey study design, guided by transaction cost theory, RBV theory and system theory. The target population for the study was 10 sugar companies in Western Kenyan region. A total of 30 respondents for the study were selected using clustered random sampling. Data was then collected using structured questionnaires distributed using the drop and collect method. Collected data was first cleaned, sorted and coded in ordinal scale using numerical numbers then entered into SPSS software version 24. The resultant data was then analyzed using both inferential and descriptive analysis. Descriptive statistics included frequencies, percentages, and means to summarize and relate variables under study. The analyzed results were then presented using tables. A regression analysis was also used to generate a model to explain the relationship between the studies' independent and dependent variables. The study concludes that product reengineering has a significant and positive influence on organizational performance. This shows that improvement of product reengineering will definitely improve performance of tea organizations. In addition, the study concludes that product development has a significant and positive influence on organizational performance. This shows that improving product development led to improvement on organizational development. Further, the study concludes that operation risk mitigation has a positive and significant influence on organizational performance. This shows that improving operation risk mitigation leads to improvement organizations. The study recommends that the sugar firms should always understand market competition through product reengineering in order to realize product performance, compliance, durability and serviceability. Also, it recommends that sugar firms should incorporate appropriate technology to make them more competitive from the threat of new competitors. Also, they should use an effective method in knowledge management to establish new product development.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Performance of a result from organization' operation accomplished (Salali, 2015). Organization performance can be measured using customers' satisfaction, new item presentation, item/administration quality and piece of the overall industry (Martinaityte, Sacramento & Aryee, 2019). For an organization to succeed, the strategic operations should guide production practices contributing towards the organization's performance (Slack & Jones, 2018). Product re-engineering tends to focus on the modification of an existing product, often through reverse engineering (Kumar, Jain & Pathak, 2012). Product and service development is a cycle of bringing a product or service from conception to market (Cavalieri & Pezzotta, 2012). Operational risk refers to the financial loss to company as a consequence of performing it in an inappropriate or inefficient manner and can arise from external factors (Radomska, 2014).

This study was guided by business process reengineering theory developed by Green and Wayhan in 1996. The theory of business process reengineering reflects the classical idea that one way to execute tasks is best. Kotler and Armstrong introduced the Product Development Process Theory in 2011, which states that the process of product development starts with concepts, continues with idea screening, idea advancement and testing, improvement of advertising system, business investigation, item advancement and showcasing testing and creates abundance. The prospect theory developed by Kahneman and Tversky in 1979 will also be employed in this study. The hypothesis of possibilities clarifies how individuals settle on a decision between probabilistic choices where danger is included and the chance of various outcomes is unsure.

Sugar sector being the backbone of the agricultural economy is one of the sectors that emphasis should be put in to ensure a continuous supply of sugar throughout. In the western region Sugar Cane is the main cash crop providing livelihood to more than half of the families. Over the recent years, the organization have undergone risk of collapse and posted poor results and as a result some state own companies have been put under receivership (Ndung & Wanjira, 2019). This decline in performance has affected the livelihood of over 6 million Kenyans who depends directly or indirectly on this sector, my study, therefore, is set to fill the gap by inspecting the impact of vital procedure on the hierarchical exhibition.

1.1.1 Strategic Operations

Strategic operations are the business strategies that the firm uses as an organization to grow and prosper. These involves market product, performance choice, method of execution and market implementation (Ziobro-Strzpek, 2019). The main purpose of the strategic operations is to minimize costs and maximize profits in every organization (Goodman, 2019). Operations include: stock control, supply chain inventory, forecasting, scheduling, efficiency, facility planning and management. Strategy includes location and scale of the plant, versatility of the use of the product and its extension. Company's performance and output measures the effectiveness of the strategic operations. In order to realize the best achievement in the market, successful organizations take part in product development over the existing strategic operations literature (George, 2012).

An organization that manages well both the external operations and internal operations, practices product reengineering and that focuses on product development stands the chance to realize and achieve its competitive vision through its operational strategies. It is important for a business to put much effort into strategic orientation as it defines the firm's standing out competitive strength and provides the realization of cognitive mental models of the organization's main strategies. The introduction of strategies pertains to a number of insecurities and can, therefore, mean well-constructed operational risk mitigation. Strategic execution and monitoring need an arrangement with steps that enable the realization of the strategy, necessary of all is the interaction control system. Therefore, the interactive association operational risk mitigation and the competitive position of an organization can be enhanced and understood through large development and measurement of strategic Operations (Bulitia, 2017).

1.1.2 Organizational Performance

Performance of a company implies the company's achievement in line with set regulations, compliance, minimized wastes and maximized production (Mutingi, Mapfaira & Monageng, 2014). Performance of a company can be evaluated by looking into its efficiency of the entire production process. An increased output is one of the indications of a good performance of a firm. These can be realized through more and efficient production, which puts the sector in a positive competitive advantage. High and improved quality of the end products also is another measure of that Operational performs does well. Operational performance metrics are used to assess organizational development of a product and service from inception to the end (Mun & Jang, 2018).

In any organization, performance is a measurable service of the process (Norman & Ball, 2012). Company's performance mainly focuses on inventory, level of productivity, quality of cost and minimization of risk, on-time delivery and production cycle time. According to Birech, Karoney and Alang'o, (2018) measures of operational performance can be categorized into two; standard individual performance and specific measure. Standard individual performance may include performance to schedule and utilization, maintenance levels, performance task time, inventory performance and productivity measures. On the other hand, specific performance includes profits realized measured under a dollar or any common scale, safety measured in terms of work hours without experiencing any accident, expense time measured under budget versus actual expenses and quality cost.

1.1.3 Sugar Companies in Western Kenya

In Kenya, the western region of the country is the largest sugar cane producing area assisting nearly 170,000 small scale farmers (Salami, Kamara & Brixiova, 2017). Small scale farmers produce about 80% of the total sugar cane production in Kenya. Sugarcane plantation, however, is facing the challenge of fragmentation which has led to a continuous decrease of land under cane in Kenya. For instance, in Nyando each family has an average of only 0.8 ha of land of which by contrast in the coastal region in Ramisi at least 20ha of land on average per family is under sugarcane plantation. It is clear that currently in western Kenya, sugar cane no longer puts bread into the table of the most families hence there is a need to identify a way of improving production (Ngetich & Kiplagat, 2018).

Sugar Companies in Kenya play out a significant part in the economy (Wekesa et al., 2015). The sugar industry employs about 250,000 small-scale farmers, these farms make over 92% raw cane supplied to the companies for processing. Kenya's sugar production capacity stands at a combined 520,000 metric tonnes (Mati & Thomas, 2019). Production of sugar in Kenya is currently dominated by privately owned sugar millers led by West Kenya Sugar Company which has a 30.1 percent share of the market. It is followed by Sukari factory at 21.4%, Butali Sugar mills at 17.7%, Transmara sugar at 5.2%, Nzoia sugar at 5%, south Nyanza Sugar at 4.4%, Muhoroni Sugar at 3.7%, Mumias Sugar at 1.9% and Chemelil Sugar at 1.1%. The majority of the above-mentioned sugar companies are located in western Kenyan region which is the focus of the study.

At the same time, the production of sugar in Kenya has been on the decline, partly due to declining production of sugarcane and the collapse of a number of state-owned sugar millers. In 2018, sugar production fell by 31 percent to 491 thousand tonnes (Koskei, 2019). Despite the government's intervention, the sugar industry still performs below capacity and not in a position to meet the ever-growing demand and effectively and comfortably compete with other producers internationally (Solomon, 2016).

1.2 Research Problem

Currently, organizations are operating under a stiff competition where resources are very scarce and where uncertainty and operational risks are common. Previous studies have found conflicting results on the relationship between strategic operations on the organizational performance. Competitive forces shape the strategy adopted by the organizations which influence their performance (Junqueira, Dutra, Zanquetto Filho & Gonzaga, 2016). Haseeb, Lis, Haouas and Mihardjo (2019) results noted that differentiation strategy influences the organization performance. Han and Lee (2012) findings revealed that strategic operation have a positive impact on organizational performance. Wijethilake, Munir and Appuhami (2018) results stated that strategic operations do not lead to improvement of organizational performance. Hung and Kuo (2018) found a negative effect strategic operation on the organizational performance.

Markets impose high standards of operations which most of the companies are not able to meet. Appropriate operational strategy and operational risk mitigation is of much impact when it comes to meeting the requirements and realizing the required operational performance. Product reengineering have facilitated companies to increase their production hence good performance and potting them in their favourable competitive edge (Alagumurthi & Ramachandran, 2013). Introduction of the new technology is always related to product development in operational performance measures. Among the benefits associated with new technology include improved labour productivity and quality, reduction of time wasted and minimized cost of production and maximized profits (Ondiek & Kisombe, 2012).

In Kenya, the sugar sector has gone through the hardest patch, recovering sometimes but always falling into oblivion. Some of the reasons for this situation were attributed to factory mismanagement and consistent macroeconomic challenges, some emanating from state policies. Today, Kenya's sugar cane farming supports over 200,000 smallholder farmers. Over six million

Kenyan's are estimated to derive their source of income directly or indirectly from the sugar sector. The sector is saving Kenya about 45 billion shillings in foreign exchange because of local sugar production (Oduor, 2019).

Among the factors that have contributed to a decrease in sugarcane production in Western Kenya include mismanagement practices, increased ineffectiveness in sugarcane production, processing and transportation. Contrasting Kenya's expense of creation and those of other East Africa nations, the expense of creation in Kenya is higher. As a result of the contributing factors to poor performance, the Western Kenyan industry has not been able to meet the COMESA requirements since 2001. This has necessitated the Kenyan government to annually seek for COMESA satisfaction and extension. Sugar industry in Western Kenya has not met the annual forecasted production; this is because of the registered low production from the various sugar factories in Western Kenya (Muteshi & Bolo, 2017). The expense of sugar creation in Kenya is USD 415-500 for each ton, contrasted with Uganda and Tanzania, at USD 180-190 for every ton and USD 140-180 for every ton, separately, as shown by the Kenya Sugar Industry Strategic Plan (2010-2014). Among the factors contributing to this high cost of production include, poor machine maintenance in the factory, low processing capacity, low rate of output extraction and inflexibility to new and appropriate technology (Yin, Stecke, Swink & Kaku, 2017).

Previous studies have indeed been conducted to assess strategic operations on organizational performance. Wachiye (2012) led an exploration on the key reactions of sugar organizations in Kenya to the execution of the COMESA Free Trade Agreement. The study found that small farms and plot sizes, high production costs, poor management of farmers' organizations and lack of knowledge on sugar cane farming were some of the challenges facing the sugar industry in Kenya. Findings also revealed that most respondents had not seen the importance and benefits of sugarcane production. Also, the majority had put their strategic responses to COMESA free market and they were satisfied with the decision made. Both leadership strategy response and market response resulted from increased market activities. There was also an increased impression of ICT and culture transformation. This study updates the knowledge of the existing belief control theory. Findings also reveal to managers on the strategy and practice of beliefs and controls and providing guidance and strategic transformation to the public sector (Bulitia, 2017).

Nevertheless, the reviewed literature agrees on the positive contribution of the strategic operations of the sugar industry in Kenya. From the above studies, however, none has been done in line with Kenyan sugar industry strategic Operations and industry performance. The research gap, therefore, needs to be filled hence my study is necessary to answer the question; What influence have strategic operations brought to Sugar Companies in Kenya how this can help in turning around the current dismal performance.

1.3 Research Objective

The study focus on assessing the effect strategic operations applications on the organizational performance.

1.4 Value of the Study

The discoveries from this examination will be valuable to the public authority and partners in strategy making. This will assist the ministries of trade and agriculture to establish appropriate policies to make it possible for businesses to be successful and able to withstand cheap import competition. The study findings and recommendations were helpful to the organizations in evaluating themselves with the aim of coming up with new strategies with the purpose of improving their performance. Also, to the stakeholders, it will help in theory building, policy, and decision making. The study findings will help establish enough ability for the main response to the increasing demand from the ever-increasing demand. To the researchers and analysts, the investigation discoveries will work as a wellspring of information and reference to those looking for additional examinations. To entrepreneurs interested in organizations, the study findings will function as a source of necessary information for their investment.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter describes a literature review of previous scholars done on the related research study. The following subsections are presented in the chapter; Theoretical review, empirical studies, conceptual framework and finally the summary of the literature review.

2.2 Theoretical Review

This part reviews theories that are pertinent to strategic operations to the organizational performance. Some of the theories that the study will look at include; transaction cost theory, RBV theory and system theory.

2.2.1 Business Process Reengineering Theory

This study was guided by the theory of business process reengineering, founded in 1996 by Green and Wayhan. The theory of business process reengineering illustrates the common idea that it is better to conduct activities one way. For companies that strive to function as efficiently and economically as possible, reengineering is an important tool (Naveeda, 2014). The principles of the theory are that seven concepts are used to re-engineer a work process and achieve a significant level of performance, time management, and improvement of speed and profitability. In order of urgency for revision, classify and prioritize all procedures in an organization (Larson & Chang, 2016).

Activities critical for business process reengineering theory include: Constant and appropriate communication, training of workers to incorporate reengineering outcomes, and preparing for change, including reevaluation of short-term goals and targets (Mohapatra, 2012). The theory is relevant to the fact that sugar producers can use it to enhance customer service, minimize costs and enhance the quality of work performed. Theory needs encouragement and vision for management; a good, dedicated project leader; clearly defined goals; coordinated management of change; and an efficient methodology. Colleagues shares an away from of the objectives and destinations, have a shared focus, understand what needs to be done, and support the project.

2.2.2 Product Development Process Theory

Kotler and Armstrong (2011) developed the theory of product development processes. The theory claimed that the goal of product creation is to transform the idea of the product into a physical product to ensure that new ideas can be turned into a viable offering on the market (Kotler &

Armstrong, 2011). The critique of the theory of product development processes is that it illustrates an idea's creation and growth before it takes any physical form. In most industries, prices will increase dramatically from this point onwards (Trott, 2005). Since those involved in production (product designers, manufacturing engineers and marketers) are going to make decisions as how best to produce the product, what materials to use, future prototypes and potential demand analyses, the next steps include adding to the idea.

For this study, this theory is relevant because it will direct the variable of product and service growth adopted in sugar companies. During the product creation process, this can be represented where the theory shows that it needs a much greater coordination of various departments (Trott, 2005). For example, the R&D department suggests concepts, then the engineering department takes concepts and produces potential prototypes; the manufacturing department will look for probable ways of producing a viable product capable of mass production; the marketing department will then be brought in to prepare and launch.

2.2.3 Prospect Theory

This investigation utilized possibility theory created by Kahneman and Tversky in 1979. Prospect hypothesis clarifies how people settle on a decision between probabilistic options where danger is included and the probability of various results is questionable. Prospect theory has shown that losses and benefits are rated differently, so people make choices based on perceived benefits rather than perceived losses (Schopenhauer, 2016). Prospect theory expects that in spite of the fact that the financial specialist was drawn closer with exactly the same shared asset, he is probably going to purchase the asset from the principal consultant, who passed on the asset's pace of return as a net advantage rather than the counselor portraying the asset as having significant yields and misfortunes. This theory has been criticized because it lacks psychological reasons for the mechanism it speaks about (Weitekamp & Kerner, 2012). The criticism comes from different clinicians who note that there are no factors in the model, for example, human passionate and emotional reactions that are significant in the dynamic cycle.

Prospect theory proposes that managers in successful firms are prone to be risk-averse whenever presented to innovation and are therefore psychologically likely to resist potentially innovative ideas, especially new product and service ideas that provide an opportunity to develop and increase sales (Mohammed & Abimiku, 2015). However, it is more likely that potentially innovative ideas

that reduce losses was implemented performance ideas that minimize costs are also more appealing to a typical human than new product innovations in the production of sugar companies. They are even more likely to render decision automation for new product and service concepts as Sugar companies face economic difficulties, as they provide the potential to minimize losses. They are likely to innovate quickly and need to innovate out of trouble themselves.

2.3 Strategic Operations

This section reviewed literature covering the strategic operations approaches; product reengineering, product development and operations risk mitigation. The three approaches have been chosen because the study focuses in manufacturing companies in nature. Therefore, when looking at the strategic operation the researcher looked at the company's product in terms of reengineering, development and ensuring low risk during the operation. This forms the basis of using the three approaches in this study.

2.3.1 Product Reengineering

Product reengineering has been viewed as an advancement needed in an organization in order to meet its competitiveness level (Alao, 2013). With this, therefore, most organization, there is a need for a continuous evaluation of those areas seen as important projects for success. Product reengineering purposes on reducing processing capacity to realize and meet the demand of supply and poor financial performance by eliminating personal gains and unprofitable production. Product reengineering always changes the company's operations and improves the production as it entails making changes aimed at improving the outputs (Boer, Berger, Chapman & Gertsen, 2017).

2.3.2 Product Development

Product development can be evident through the process where those in power to decide for the organization interact within themselves, members of the organization and other external parties with the aim of improving the firm's production. In Kenya today, most of the organizations are aiming at realizing the markets competitive edge by laying down strategies the put them in a good position. The challenge for organizations in Kenya is to choose strategies that meet market demands in the context of a crisis. It should be noted that the dynamics of the macro environment are a major part of the challenges in the industry. The choice of company strategies for development in an organization is much based on corporate social responsibility in creating industrial policies (Porter & Heppelmann, 2015).

2.3.3 Operations Risk Mitigation

Risk mitigation is the longing of each assembling association to acknowledge most extreme benefits, accomplish the organization's objectives and achieve the ideal development (Choi, Ye, Zhao & Luo, 2016). In the midst of the operations, the business is always faced various Business risk which needs mitigation, to mitigate this risk the firm has to pay a cost. Organizations is going through a transition session due to structural reforms process aimed at social and economic growth in the country. All manufacturing firms, fall under the umbrella of Kenya Association of Manufacturers which has enabled the manufacturing firms to exploit their resources through equipping them enabling them to avoid many risks and improve their production (Hopkin, 2018). However, risk management still remains the responsibility of the organization.

2.4 Performance Measurement

Performance measurements are routine measures of results and outcomes that provide accurate data on the efficacy and effectiveness of programs (Jonasson & Rundgren, 2020). It involves examining the company's objectives and goals and their level of achievements. Performance can also be viewed as results or outputs as compared to the set targets and expectation. Company performance can be evaluated in terms of efficiency, effectiveness and environmental responsibility standards or indicators. Among the indicators of performance measurement includes market share, introduction and product quality and customer satisfaction.

2.4.1 Market Share

The market share of an organization is the level of generally speaking income of a given organization (Aobdia & Shroff, 2017). The market share shall be measured on the basis of the company's revenue over the period and divided over similar period by the general deals of the business. This metric gives an outline of the size of a business in comparison to its markets and its rivals. The company with the highest market share is the market leader in the industry. The company's market share is a proportion of its total market or sector revenue (Edeling & Himme, 2018). Investors and analysts closely track the rise and fall of market share, since this may be an indication of the relative quality of the goods or services provided by the company.

2.4.2 New Product Introduction

New product introduction shall cover all activities within the organization with a view to defining, developing and launching a new product or developing an improved product. New product

introduction activities start after design and development and simply deal with the launch and marketing of the product. The frequency of new product launching is certainly related to the product development capacity of a company (Mazzelli, Kotlar & De Massis, 2018). Capacity planning can contribute to three aspects of new products' introduction. For a flexible manufacturing system, first of all, when capacity is expressed in the part types that may be processed rather than the products it is able to make (product consisted of specific part types), capacities can then be determined to accommodate more products. Secondly, the integration of manufacturing resources inside and outside the company can facilitate the production of new products. Thirdly, if, for example, technology breakthroughs and progress can also be considered in a capacity planning model, new product production facilities are implicitly considered (Parker, Krause & Covin, 2017).

2.4.3 Product Quality

Product quality incorporates features which have the ability, by improving and eliminating products (goods), to meet the consumer's needs (wanting) (Manova & Yu 2017). Product quality depends primarily on significant aspects such as: the type of raw materials used to manufacture the product; how well different production processes are implemented; the expertise and experience of workers in the manufacturing process; and the availability of production-related overheads such as power supply and water, transport (Cao, 2019). The product needs to be designed according to consumer needs and standards of high quality. The finished products must comply (match) with the specifications of the product design. The products must be trustworthy or reliable. They must not easily disintegrate or get disabled. They must not be repeatedly repaired either. They must continue to be operational to be considered reliable for a satisfactory longer period. For use and/or handling, the finished product must be safe. The consumer should in no way be harmed. The product needs to be properly packaged and stored. It must maintain its quality until its date of expiration (Wen & Siqin, 2020).

2.4.4 Customer Satisfaction

Customer satisfaction is a marketing term measuring how a company's products or services satisfy or exceed the expectations of the customer (Wikhamn, 2019). Customer satisfaction is important because marketers and business owners are able to use a metric to manage and improve their companies. A measurement of how happy customers with products, services, and capacities of a company are defined as satisfaction for their customers. Information on customer satisfaction,

including surveys and assessment, can help an enterprise identify how its products and services can be improved or changed best (Zhang, Zhang & Zhang, 2019). To satisfy its clients, an organization should focus primarily. This applies to industrial companies, retail and wholesale enterprises, public authorities, companies providing services, non-profit organisations, and each subgroup of an organisation (Shaharudin & Nayan 2020).

2.5 Empirical Review

This section reviewed on literature on the organizational performance. The review focuses on the organizational performance. Zainuddin, Setyawati and Wibowo (2017) did a study on management of risk in the sugar industry. Essential and auxiliary information were used in the investigation. This included yearly sugar manufacturing plant execution pointers; filter cake and molasses amount, bagasse produced, mill extraction and boiling point plus overall recovery. From the study findings, Indonesia still incurs a lot of losses in sugar production. This indicates that there is a low execution of the sugar business in Indonesia due to the ineffectiveness of sugar mills. There is a high level of risk in production. Sugar industry should come up with a program to reduce the level of losses and make use of losses has value-added-co-products.

Kumar (2019) qualitatively and quantitatively investigated growth factors of the sugar industry in India. The study used a systematic primary research method to collect data using questionnaires and qualitative interviews. Countrywide, equality in sugar production regulation, government mutual and rational decisions, management of factories and farms and diversification in the production process has been suggested has likely solutions to unending industry challenges. According to Li and Yang (2015), China produced sugar since the fourth century BC. Globally, China comes third in sugar production after Brazil and India. 65% of sugar cane production in China comes from Guangxi. Despite China doing well in sugar production, however, it has faced a range of difficulties over the last few years increased cost of labour being one of the challenges due to manual harvesting. To gap this, china should move from manual labour to mechanical labour to catch up with international sugar production. Among other challenges facing China's sugar company include, poor farm practices such as cultivation, too much use of fertilizers, high cost of escalation, abiotic and biotic stress. There are interventions however to adopt new technology.

Motaroki and Odollo (2016) did a study effect of asset-based strategy on Performance. Descriptive relationship research configuration was utilized in the examination. The study targeted 44 section heads and census inquiry was done. The study established a high influence on performance by the deny action strategy. As far as deny action is of concern, there was consistency in determining its relationship with the performance of an organization against other companies. The study findings were useful to both Mumias Sugar Company and any other sugar firm. Philip (2015) investigated the impact resulting from joined legislation on firm's performance of the sugar industry in western Kenya. The study utilized correlation survey design. The relationship between firms' performance and corporate governance was established using Pearson's correlation coefficient. Influence of corporate governance on organizational performance was assessed through multiple Regression. Study findings revealed a weak positive association in performance and corporate governance. Some of the activities of the corporate governance had an influence on sugar industry performance in western Kenya include; continuous monitoring, shareholder communication, the size and involvement of board members.

Mbithi et al., (2015) assessed whether company performance was affected by product reengineering. Two variables that is new developed product and improved existing product were considered independent variables. Measures of performance included utilization of capacity, quantity of sales, profits and result turnover. The study chose the sugar industry in Kenya because of its significance in the agricultural sector. From the findings, there has been less or no introduction of new product whereas branding and packaging have been utilized to improve the existing product. On performance measures, turnover result, quantity of sales and capacity utilization showed positive and moderate results, however profitability enforced to tax showed non-constant results. Looking on the two independent variables, industry performance responded positively to working on the existing product while poor response on the introduction of a new product due to actualization reality.

Audax (2018) did a study on factors influencing the money related execution of assembling firms presently in the NSE. The discoveries of the investigation demonstrated that the money related execution of the association was fundamentally influenced by the size of the organization. There was an immediate relationship between association size and monetary execution; size increment brought about improved budgetary execution. An expansion of 30% was recorded in the money related execution. Further from the study findings, the financial performance of the organizations

registered with NSE Kenya was significantly affected by leverage. From the correlation analysis, increased business operations brought a significant improvement in financial performance. In addition, liquidity also significantly affected the financial performance, both regression and correlation analysis indicated that increased liquidity amounts to increased financial performance. Zainuddin, Setyawati and Wibowo, (2017) and Kumar, (2019) found out that an inefficiency in sugar factory performance which is a risk of loss in the sugar industry. The risk assessment of production due to losses indicates a high degree of risk. Also, the results showed us the contribution of government to the organizational performance. The studies further revealed the importance of setting up policies for the effective organizational performance.

Mbithi, Muturi and Rambo (2015) suggest that the development of the existing product has been done more frequently compared to the introduction of the new product other than sugar which has been minimal. There was fluctuating results in profitability after-tax while capacity utilization was moderate and sugar sales quantity and turnover outputs were positive. Improvement of the existing production process showed a fair response but poor in new product introduction which is to be realized after actualization. This implies that the introduction of another product negatively affects the organizational performance. The reviewed literature also brings out financial risk management and factors affecting financial flow in the companies which in turn influences the organizational performance.

2.6 Conceptual Model

The conceptual model shows the connection between dependent and independent variables. The independent variables will comprise of product reengineering which can affect the organizational performance in terms new product introduction and product/service quality. Product development can affect the organizational performance in terms customers satisfaction, market share and new product introduction. Operational risk can affect the organizational performance in terms customers satisfaction, market share, new product introduction and product/service quality. The dependent variable was organizational performance measured through customers' satisfaction, market share, new product introduction and product quality.

Independent variables

Dependent variable

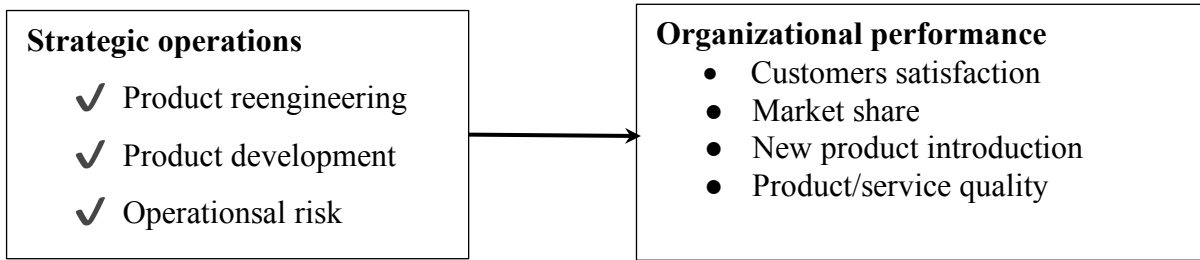


Figure 1: Conceptual Framework

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This section portrays research design, population of the study, and sample of the study, data collection and data analysis.

3.2 Research Design

This investigation utilized the descriptive research design. This plan is proper to this investigation since it depicts a significant level of exactness of concerned people, occasions and conditions. This design depicts set of procedures and methods that describes variables. It entails the collection of data that explains events and presents them in form of tables and analyses the data. The design answers the questions, who, how and what is being studied. According to Georgia (2013), Descriptive design is a process of gathering data for the purpose of testing a hypothesis or of answering some questions concerning the subject under study. It has the advantage to describe comportment, attitude, and character and values extensively. Mackey and Gass (2015) recognize the need for informative outline especially when the purpose is to accomplish a more far-reaching thought of the setting of the exploration and techniques being looked for.

3.3 Target Population

The target population for the study was 10 sugar companies in the Western Kenyan region. Sugar companies in the Western Kenyan region have faced several key challenges. These challenges included: trade liberalization under the COMESA protocols, high production costs compared to other sugar-producing countries in the region, the dilapidated state of some factories, poor governance and management, insufficient funding, and inadequate research and extension services (Maro, 2016). From these sugar companies, the accessible population was 10 operations managers, 10 finance managers and 10 customer relation managers of Sugar Companies in Western Kenyan region.

Table 1 Target Population

Sugar Companies	Operations	Finance	Customer Relations
Nzoia Sugar Company	1	1	1
Chemelil Sugar Company	1	1	1
Mumias Sugar Company	1	1	1
Muhoroni Sugar Company	1	1	1
South Nyanza Sugar Company	1	1	1
Sony Sugar Company	1	1	1

Western Kenya Sugar Company	1	1	1
Kibos Sugar Company	1	1	1
Butali Sugar Mills	1	1	1
Transmara Sugar Company	1	1	1
Total	10	10	10

3.4 Data Collection

The study used a questionnaire (see Appendix I) as the main data collection tool. The questionnaire starts with an introduction request followed by things which are partitioned into two sections. Part 1 is set to capture items on the effect of product reengineering, product development and operational risk mitigation on the organizational performance. Part 2 is set to capture items on organizational performance. The items are Likert type with a scale of 1 to 5. The highest degree was marked with the most positive choice from the alternatives while the least score is awarded to the most negative choice. Likert scale for which 5-Strongly Agree, 4-Agree, 3-Undecided, 2-Disagree and 1-Strongly Disagree. The study also obtained secondary data from the company's records. The secondary data obtained in this study was sugar production in tonnes, total asset turnover ratio, net profit ratio, earnings per share, sale volume.

The researcher obtained a duly signed and stamped introductory letter from the University of Nairobi and then proceeded to seek permission from the National Council for Science, Technology and Innovation (NACOSTI). The researcher notified the managers of the sampled sugarcane processing companies in advance. The respondents were issued with the instruments and be given time to complete answering the items of the instrument which were immediately collected when the time frame allocated elapses

3.5 Data Analysis

Data collected was cleaned and subsequently entered into a computer database using double-entry to ensure accuracy. All companies' details were kept confidential and non-coded data was only available to the researcher. Collected data was tabulated and processed using SPSS (23) for Windows software. Quantitative data was expressed as frequency, percentages, mean and standard deviation. In Inferential statistics, correlation and regression models were used to determine the effect of strategic operations on the organizational performance. The study tested for the normality, Multicollinearity and autocorrelation assumptions of multiple regression models. Analysed data was presented in the form of percentages, frequencies, table and charts. Multiple regression

analysis was applied in the model below; In order to get dependent variable Y which was the organizational performance where the four measures of performance (market share, new product introduction, product/service quality and customers satisfaction) was transformed after coding.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \dots \dots \dots \text{(i)}$$

Where

Y = organizational performance

X₁ = Product reengineering

X₂ = Product development

X₃ = Operational risk mitigation

β₀ = Y intercept in the equation

β₁, β₂ and β₃ = coefficients of the independent variable

ε = error term

CHAPTER FOUR: RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the study findings. The chapter was categorized into response rate, demographic information, descriptive statistics and inferential statistics. The data from the study were analyzed and the results interpreted on the basis of the overall objectives of the study.

4.2 Response Rate

According to research by Orodho (2009), alludes reaction rate as the degree to which the last informational indexes incorporates all example individuals and is determined as the quantity of respondents with whom meetings are finished and isolated by the all-out number of respondents in the whole example including non-respondents. The data was collected from 10 operations mangers, 10 finance managers and 10 customer relation managers of Sugar Companies in Western Kenyan region. Questionnaires were accurately filled and returned yielding a response rate of 86.7%. This response rate was deemed appropriate for the study which in agreement with Kothari (2011) perceived a response rate greater than 70% to be satisfactory for a given study. Additionally, study done by Gall, Borg, and Gall (1996), has shown that response rate of 85-80% is viewed as astounding in quantitative examination in Social Sciences though as indicated by Fincham (2008), has likewise affirmed that a response rate of 60% is seen as appropriate in research, while according to Mangione (1995), has revealed that a response rate of over 85% is seen as stunning for self-filled surveys. The response rate for this assessment was seen as unfathomable for extra examination since it was over 80%.

Table 2 Response Rate

	Frequency	Percentage
Returned questionnaires	26	86.7
Unreturned questionnaires	4	13.3
Total	30	100.0

4.3 Results of the Pilot Study

A pilot study was undertaken to pre-test data collection instrument for reliability. The questionnaires were issued to a selected group of respondents to permit enhancements for the blundered or uncertain territories, be it in phrasing issues or estimation, before they were controlled to the expected members (Kothari, 2011; Mathuva, 2016). The pilot study enhances the capacity of the researcher to detect weakness in design of the instrument used and thereby providing the necessary correction and adjustment to the data instrument accordingly (Orodho, 2009; Kuvaas 2009). Test-retest reliability is a proportion of dependability got by overseeing a similar test twice throughout some stretch of time to a gathering of people (Klein & Ford, 2003).

Data validity assumed a significant function towards speculation of the accumulated information to reflect the genuine attributes of the investigation issue. Steady and predictable capacity of an exploration instruments yields dependability of it. In the momentum study, Cronbach's Alpha was utilized to test the dependability of the exploration instrument. Sekaran and Bougie (2013), contended that the dependability coefficient ranges somewhere in the range of 0 and 1 and the closer it is to 1 the more solid it is; undoubtedly when an exploration instrument surpasses 0.7 then the examination instrument is solid. In the flow concentrate all the factors had coefficient going from 0.8 to 0.9, which demonstrated that the examination instrument was dependable.

Table 3 Reliability Analysis

Variables	Number of items	Cronbach's alpha	Comments
Product reengineering	4	.834	Accepted
Product development	4	.889	Accepted
Operation risk mitigation	4	.890	Accepted
Organizational performance	4	.810	Accepted

4.4 Background Information of the Respondents

Respondents' background information was sought, specifically gender, highest level of education, number of years the company and gender. Frequency and percentage were used to analyze.

4.4.1 Gender of the Respondents

The respondents were approached to indicate their gender. Concerning the gender, as shown in Table 4.3 majorities 17(65.4%) of the respondents were males and 9(34.6%) were female. This shows that companies are male dominated which could be attributed to nature of the working environment. These findings are in support of research by Gyan (2013), which revealed that almost all the countries in the world has less than five percent of Women in top positions in all companies. Similarly, according to research by Katie (2016), she reiterated that global statistics has shown that women in sugar sector are often hard to find, inconsistent, incomplete or lumped together with other categories. In another research by World Economic Forum (2014), it has been revealed that women in its global workforce remain less than 20% and between 10% and 15% at senior levels. Similarly, research by Gyan (2013) further reiterated that the role of women has begun to fade as their male counterpart dominates the energy industry which has now become realities of the modern workplace.

Table 4 Gender of the Respondents

Gender	Frequency	Percent
Male	17	65.4
Female	9	34.6
Total	26	100.0

4.4.2 Age Bracket of the Respondents

The respondents also sought to determine the age brackets of the respondents. Table 4.4 presents the study results.

From the results, 5(19.2%) of the respondents indicated that they were aged between 18 years and 29 years, 12(46.2%) were aged between 30 years to 39 years, 5(19.2%) indicated between 40 years to 49 years and 4(15.4%) were aged over 51 years. This shows that the respondents were old enough to understand matters concerning the topic under the study.

Table 5: Age Bracket of the Respondents

Age	Frequency	Percent
18-29 years	5	19.2
30-39 years	12	46.2
40-49 years	5	19.2
Over 51 years	4	15.4
Total	26	100.0

4.4.3 Level of Education

Furthermore, most associations use education as a pointer of an individual's aptitude levels or efficiency (Barako, 2010). From the results, 4(15.4%) of the respondents have a certificate level, 11(42.3%) diploma level, 9(34.6%) had undergraduate level and 2(7.7%) of the respondents have master's level of education. It is obvious that the workers have the imperative abilities to play out their obligations adequately. As such, the employees' educational attainment was part of the organizations' human capital.

Table 6: Age Bracket of the Respondents

Education	Frequency	Percent
Certificate	4	15.4
Diploma	11	42.3
Degree	9	34.6
Masters	2	7.7
Total	26	100.00

4.4.4 Years in the Company

The inquiry looked to examine the quantity of years in the organization as appeared in figure 4.5, revealed that 6(23.1%) had worked in the for a period below five years, 13(50%) of respondents had worked for a period of between 5 to 10 years. The rest 7(26.9%) of respondents had worked for between 10 years and above. This implies that most of the people in the sugar sector had acquired in the industry training since they had served for several years. The findings of this examination noted that it was significant for 15 years work experience is a sensibly long span

which permits the sugar business to manufacture sufficient memory and information base and subsequently offer a decent profile for study.

Table 7: Years in Company

	Frequency	Percent
Below 5 years	6	23.1
Between 5-10 years	13	50
10 years and above	7	26.9
Total	26	100.00

4.5 Descriptive Analysis

In this study descriptive statistics for independent variables (product reengineering, product development, operation risk) and the dependent variable (Organizational performance) were analyzed through use of mean, frequencies, percentage and standard deviation as shown below.

4.5.1 Product Reengineering

The primary explicit target of the study was to determine the effect of product reengineering on organizational performance. The respondents were asked to demonstrate their degree of concurrence on various statements relating to product reengineering. The results were as presented in

Table 8: Product Reengineering

Statements		SA	A	UD	D	SD	Mean	Standard dev.
1. Product performance has been achieved through product reengineering		12	11	1	1	1	4.27	0.901
		46.2	42.3	3.8	3.8	3.8		
2. Product compliance has been enhanced through product reengineering		7	11	6	1	1	3.85	0.988
		26.9	42.3	23.7	3.8	3.8		

3. Product durability has been enhanced through product reengineering		11	11	1	2	1	4.12	1.498
		42.3	42.3	3.8	7.7	3.8		
4. Product serviceability has been enhanced through product reengineering based on understanding the market competition		10	6	6	3	1	3.81	1.777
		38.5	23.1	23.1	11.5	3.8		
Valid	26						4.01	

Table 4.6 shows that 12(46.2%) of the respondents strongly disagree, 11(42.3%) disagree, 1(3.8%) were undecided, 1(3.8%) disagree and 1(3.8%) strongly disagree with the statement that product performance has been achieved through product reengineering. Further the study findings showed in terms of means and standard deviation that product performance has been achieved through product reengineering (Mean, =4.27, Std. dev=0.901).

Also, 7(26.9%) of the respondents strongly disagree, 11(42.3%) disagree, 6(23.7%) were undecided, 1(3.8%) disagree and 1(3.8%) strongly disagree with the statement that product compliance has been enhanced through product reengineering. Further the study findings showed in terms of means and standard deviation that product compliance has been enhanced through product reengineering (Mean, =3.85, Std. dev=0.988).

Another, 11(42.3%) of the respondents strongly disagree, 11(42.3%) disagree, 1(3.8%) were undecided, 2(7.7%) disagree and 1(3.8%) strongly disagree with the statement that product durability has been enhanced through product reengineering. Further the study findings showed in terms of means and standard deviation that product durability has been enhanced through product reengineering (Mean, =4.12, Std. dev=1.498).

Finally, 10(38.5%) of the respondents strongly disagree, 6(23.1%) disagree, 6(23.1%) were undecided, 3(11.5%) disagree and 1(3.8%) strongly disagree with the statement that product serviceability has been enhanced through product reengineering based on understanding the market competition. Further the study findings showed in terms of means and standard deviation

that Product serviceability has been enhanced through product reengineering based on understanding the market competition (Mean, =3.81, Std. dev=1.777).

The study results also reveal that product reengineering of has a significant and positive influence on performance of the organization. This implies that product performance, compliance, durability and serviceability have been enhanced through product reengineering based on understanding the market competition.

The study agrees with (Boer, Berger, Chapman & Gertsen, 2017) who asserts that product reengineering purposes on reducing processing capacity to realize and meet the demand of supply and poor financial performance by eliminating personal gains and unprofitable production. Product reengineering always changes the company’s Operations and improves the production as it entails making changes aimed at improving the outputs

4.5.2 Product Development

The second specific objective of the study was to determine the effect of product development on organizational performance. The respondents were requested to indicate their level of agreement on various statements relating to product development. The results were as presented in

Table 9: Product Development

Statements		SA	A	UD	D	SD	Mean	Standard dev.
1. Product design of new with appropriate technology has absorbed the organization from the threat of new competitors		10	11	2	1	2	4.04	1.091
		38.5	42.3	7.7	3.8	7.7		
2. The company uses an effective knowledge management method to		9	4	9	2	2	3.62	1.243
		34.6	15.4	34.6	7.7	7.7		

establish new product development.								
3. Product differentiation taken by the organization can lead to variations in performance.		11	8	3	1	2	3.92	1.268
		42.3	30.8	11.5	3.8	7.7		
4. Customer experience has been improved through product and service development		7	11	2	4	2	3.65	1.238
		26.9	42.3	7.7	15.4	7.7		
Valid	26						3.81	

Table 4.7 shows that 10(38.5%) of the respondents strongly disagree, 11(42.3%) disagree, 2(7.7%) were undecided, 1(3.8%) disagree and 2(7.7%) strongly disagree with the statement that product design of new with appropriate technology has absorbed the organization from the threat of new competitors. Further the study findings showed in terms of means and standard deviation that product design of new with appropriate technology has absorbed the organization from the threat of new competitors (Mean, =4.04, Std. dev=1.091).

Also, 9(34.6%) of the respondents strongly disagree, 4(15.4%) disagree, 9(34.6%) were undecided, 2(7.7%) disagree and 2(7.7%) strongly disagree with the statement that the company uses an effective knowledge management method to establish new product development. Further the study findings showed in terms of means and standard deviation that the company uses an effective knowledge management method to establish new product development. (Mean, =3.62, Std. dev=1.243).

Further, 11(42.3%) of the respondents strongly disagree, 8(30.8%) disagree, 3(11.5%) were undecided, 1(3.8%) disagree and 2(7.7%) strongly disagree with the statement that product differentiation taken by the organization can lead to variations in performance. Further the study findings showed in terms of means and standard deviation that product differentiation taken by the organization can lead to variations in performance. (Mean, =3.92, Std. dev=1.268).

Finally, 7(26.9%) of the respondents strongly disagree, 11(42.3%) disagree, 2(7.7%) were undecided, 4(15.4%) disagree and 2(7.7%) strongly disagree with the statement that customer experience has been improved through product and service development. Further the study findings showed in terms of means and standard deviation that customer experience has been improved through product and service development (Mean, =3.65, Std. dev=1.238).

The study findings also reveal that product development has a significant and positive influence on performance of the organization. This implies that Product design of new with appropriate technology has absorbed the organization from the threat of new competitors. Also, the company uses an effective knowledge management method to establish new product development. Further, Product differentiation taken by the organization can lead to variations in performance. Finally, customer experience has been improved through product and service development.

The study findings also concur with (Porter & Heppelmann, 2015) who asserts that Product development can be evident through the process where those in power to decide for the organization interact within themselves, members of the organization and other external parties with the aim of improving the firm’s production.

4.5.3 Operation Risk

The study determines the effect of operation risk on organizational performance. The respondents were requested to indicate their level of agreement on various statements relating to operation risk. The results were as presented in Table 10.

Table 10: Operation Risk

Statements		SA	A	UD	D	SD	Mea n	Stand ard dev.
1. Risk perception has been reduced hence mitigating Operational risk		14	9	1	1	1	4.31	0.991
		53.8	34.6	3.8	3.8	3.8		
		14	4	6	1	1	4.12	1.121

2. Monitoring and evaluation have been enhanced to mitigate Operations risk		53.8	15.4	23.1	3.8	3.8		
3. Risk assessment has been enhanced through Operations risk mitigation		10	12	1	2	1	4.15	1.021
		38.5	46.2	3.8	7.7	3.8		
4. Task Segregation has been enhanced through Operations risk mitigation		8	8	6	3	1	3.73	1.128
		30.8	30.8	23.1	11.5	3.8		
Valid	26						4.08	

Table 4.8 shows that 19(53.8%) of the respondents strongly disagree, 9(34.6%) disagree, 1(3.8%) were undecided, 1(3.8%) disagree and 1(3.8%) strongly disagree with the statement that risk perception has been reduced hence mitigating Operational risk. Further the study findings showed in terms of means and standard deviation that risk perception has been reduced hence mitigating Operational risk (Mean, =4.31, Std. dev=0.991).

Also, 14(53.8%) of the respondents strongly disagree, 4(15.4%) disagree, 6(23.1%) were undecided, 1(3.8%) disagree and 1(3.8%) strongly disagree with the statement that monitoring and evaluation have been enhanced to mitigate Operations risk. Further the study findings showed in terms of means and standard deviation that monitoring and evaluation have been enhanced to mitigate Operations risk (Mean, =4.12, Std. dev=1.121).

Further, 10(38.5%) of the respondents strongly disagree, 12(46.2%) disagree, 1(3.8%) were undecided, 2(7.7%) disagree and 1(3.8%) strongly disagree with the statement that risk assessment has been enhanced through Operations risk mitigation. Further the study findings showed in terms of means and standard deviation that risk assessment has been enhanced through Operations risk mitigation (Mean, =4.15, Std. dev=1.021).

Finally, 8(30.8%) of the respondents strongly disagree, 8(30.8%) disagree, 6(23.1%) were undecided, 3(11.5%) disagree and 1(3.8%) strongly disagree with the statement that Task Segregation has been enhanced through Operations risk mitigation. Further the study findings

showed in terms of means and standard deviation that Task Segregation has been enhanced through Operations risk mitigation (Mean, =3.73, Std. dev=1.128).

The study findings also reveal that operation risk has a significant and positive influence on performance of the organization. This implies that Risk perception has been reduced hence mitigating Operational risk. Also, Monitoring and evaluation have been enhanced to mitigate Operations risk. Further, Risk assessment has been enhanced through Operations risk mitigation. Finally, Task Segregation has been enhanced through Operations risk mitigation.

The study result concurs with (Choi, Ye, Zhao & Luo, 2016) who asserts that business is always faced various Business risks which need mitigation, to mitigate this risk the firm has to pay a cost.

4.5.4 Organizational Performance

The respondents were finally requested to indicate their level of agreement on various statements relating to organizational performance. The results were as presented in Table 11

Table 11: Organizational Performance

Statements		SA	A	UD	D	SD	Mean	Standard dev.
1. There is a notable increase in market share		12	10	1	2	1	4.42	0.840
		46.2	38.5	3.8	7.7	3.8		
2. There is customers satisfaction on the organization operations		11	12	1	1	1	4.23	0.933
		4.3	46.2	3.8	3.8	3.8		
3. There is introduction of new product through using Operational strategies		12	10	1	2	1	4.31	0.867
		46.2	38.5	3.8	7.6	3.8	4.00	1.143
4. There is a significance increase in the product/service quality		12	7	5	2	1		
		46.2	26.9	19.2	7.7	3.8		

by using Operational strategies.								
Valid	26						4.24	

Table 4.9 shows that 12(46.2%) of the respondents strongly disagree, 10(38.5%) disagree, 1(3.8%) were undecided, 2(7.7%) disagree and 1(3.8%) strongly disagree with the statement that There is a notable increase in market share. Further the study findings showed in terms of means and standard deviation that there is a notable increase in market share (Mean, =4.42, Std. dev=0.840).

Also, 11(4.3%) of the respondents strongly disagree, 12(46.2%) disagree, 1(3.8%) were undecided, 1(3.8%) disagree and 1(3.8%) strongly disagree with the statement that there is customers satisfaction on the organization operations. Further the study findings showed in terms of means and standard deviation that there is customers satisfaction on the organization operations (Mean, =4.23, Std. dev=0.933).

Further, 12(46.2%) of the respondents strongly disagree, 10(38.5%) disagree, 1(3.8%) were undecided, 2(7.7%) disagree and 1(3.8%) strongly disagree with the statement that there is introduction of new product through using Operational strategies. Further the study findings showed in terms of means and standard deviation that there is introduction of new product through using Operational strategies (Mean, =4.31, Std. dev=0.867).

Finally, 12(46.2%) of the respondents strongly disagree, 7(26.9%) disagree, 5(19.2%) were undecided, 2(7.7%) disagree and (%) strongly disagree with the statement that there is a significance increase in the product/service quality by using Operational strategies. Further the study findings showed in terms of means and standard deviation that there is a significance increase in the product/service quality by using Operational strategies. (Mean, =4.00, Std. dev=1.143).

4.5.5 Descriptive Statistics for Sugar Production, Assets Turnover Ratio, Net Profit Ratio, Earnings Per Share and Sales Volume

Table 12: Descriptive Statistics for Sugar Production, Assets Turnover Ratio, Net Profit Ratio, Earnings Per Share and Sales Volume

	N	Mean	Std. Deviation	Minimum	Maximum
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Sugar production	8	517024	100162.7	376100	639100
Assets turnover ratio	8	0.40375	0.07386	0.25	0.48
Net profit ratio	8	6.3	3.183	2.6	12
Earnings per share	8	27.4125	16.44571	50.3	10.1
Sales volume	8	152.875	27.5859	121	205

Sugar production, assets turnover ratio, net profit ratio, earnings per share and sales volume were also the study variables in the study. Their mean, maximum, minimum and standard deviation was taken into account. From the findings, the study found that there was mean of 517024 for sugar production, 0.40375 for assets turnover ratio, 6.3 for net profit ratio, 27.4125 for earnings per share and 152.875 for sales volume. On standard deviation sugar production had a standard deviation of 100162.7, assets turnover ratio had a standard deviation of 0.07386, net profit ratio had a standard deviation of 3.183, earnings per share had a standard deviation of 16.44571 and sales volume had a standard deviation of 27.5859.

4.6 Correlation Results

The investigation utilized Pearson Product Moment correlation analysis to survey the idea of the connection between the autonomous factors and the needy variable just as the connections among the free factors (Wong and Hiew, 2015; Jahangir and Begum 2008). Wong and Hiew (2015) further place that the connection coefficient esteem (r) going from 0.10 to 0.29 is viewed as powerless; from 0.30 to 0.49 is viewed as medium, what's more, from 0.50 to 1.0 is viewed as solid. According to table 4.10, there was a positive connection between item reengineering and hierarchical execution ($r = 0.953$, p -esteem $< .01$). Also, the investigation showed a positive connection between item advancement and authoritative execution ($r = 0.930$, p -esteem $< .01$) and furthermore there was a positive connection between hazard activity alleviation and authoritative execution ($r=0.890$, p -value <0.01).

Table 13: Correlation Results

Variable (N=26)	Organizational performance	Product reengineering	Product development	Risk operation mitigation
Organizational performance	1			
Product reengineering	.953 **	1		
Product development	.930**	.892 **	1	
Risk operation mitigation	.890 **	.850* *	.957 **	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

4.7 Regression Analysis

Model summary gives the coefficient of assurance (R^2) which shows extent of the change in the reliant variable that is unsurprising from the free factor and connection coefficient (R) shows the level of relationship between the needy and autonomous factors. The outcomes introduced in Table 4.12 present the fitness of the model utilized of the regression model in clarifying research.

Table 14: Regression Model Summary

Model	R	R^2	Adjusted R^2	Standard error of the estimate
1	0.976	0.953	.944	0.344

a. Predicators :(constant): product reengineering, product development and risk operation mitigation

b. Dependent variable: organizational performance

From the above findings, the value of R is 0.976, R^2 is 0.953 and adjusted R^2 is .944. This therefore implies that 95.3% changes in organizational performance are contributed by the independent variables.

Table 15: ANOVA

	Sum of squares	Df	Mean square	F	Sig.
Regression	50.629	4	12.657	106.9456	.000 ^b
Residual	2.4854	21	0.1184		
Total	53.115	25			

The ANOVA discoveries at 95% certainty level and 5% huge level show that F-significance estimation of p under 0.05 was set up ($p= 0.00 < 0.05$). This implies that the regression model had a high dependability of the outcomes. The likelihood estimation of 0.001 was gotten which additionally demonstrates that the relapse model was critical in anticipating the connection among needy and autonomous factors. In this way the invalid speculation that; the whole above components joined don't impact the hierarchical exhibition is dismissed. As per Hausman (2003) this model can be utilized for assessing purposes.

Table 16: Regression Analysis Coefficient

	Unstandardized		Standardized	T	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	0.063	0.171		1.366	0.004
Product reengineering	0.725	0.117	0.321	6.200	0.000
Product development	0.608	0.252	0.230	2.408	0.025
Risk operation mitigation	0.569	0.260	0.224	2.188	0.040

The resultant equation becomes: $Y = 0.063 + 0.725 X_1 + 0.608 X_2 + 0.569 X_3 + \varepsilon$

Where;

Y represents organizational performance which is the independent variable,

X1 represents product reengineering

X2 represents product development

X3 represents risk operation mitigation

ϵ is an error term.

Along these lines, when all the factors are held consistent, hierarchical execution would be at 0.063, a unit increment in item reengineering different factors steady would increment in organizational performance by 0.725, a unit increment in item advancement holding different factors consistent would increment authoritative execution by 0.608, a unit increment in hazard activity moderation different factors consistent would improve authoritative execution by 0.569.

4.8 Discussions of the Study Results

The examination found a significant and positive connection between product reengineering and performance of the organization. This implies that product performance, compliance, durability and serviceability have been enhanced through product reengineering based on understanding the market competition. The study agrees with (Boer, Berger, Chapman & Gertsen, 2017) who asserts that product reengineering purposes on reducing processing capacity to realize and meet the demand of supply and poor financial performance by eliminating personal gains and unprofitable production. Product reengineering always changes the company's Operations and improves the production as it entails making changes aimed at improving the outputs.

The examination likewise found a positive connection between product developments and performance of the organization. This implies that product design of new with appropriate technology has absorbed the organization from the threat of new competitors. Additionally, the organization utilizes a successful information the board technique to build up new item improvement. Further, product differentiation taken by the organization can lead to variations in performance. Finally, customer experience has been improved through product and service development. The study findings also concur with (Porter & Heppelmann, 2015) who asserts that

Product development can be evident through the process where those in power to decide for the organization interact within themselves, members of the organization and other external parties with the aim of improving the firm's production.

Finally, the investigation additionally found a positive connection between operation risk and organizational performance. This implies that Risk perception has been reduced hence mitigating Operational risk. Also, monitoring and evaluation have been enhanced to mitigate operations risk. Further, Risk assessment has been enhanced through operations risk mitigation. Finally, task Segregation has been enhanced through operations risk mitigation. The study result concurs with (Choi, Ye, Zhao & Luo, 2016) who asserts that business is always faced various Business risks which need mitigation, to mitigate this risk the firm has to pay a cost.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter entailed a discussion of the findings' summary, conclusions, recommendations, and recommendations for further studies. Summary of the results, conclusions, and recommendations was done as per the purpose of the study.

5.2 Summary of the Study Findings

This sub-section presents the summary of the findings in line with the general and specific objectives of the study.

5.2.1 Product Reengineering

The study found that product reengineering of has a positive influence on organizational performance. This implies that product performance, compliance, durability and serviceability have been enhanced through product reengineering based on understanding the market competition.

5.2.2 Product Development

The study found that product development has a significant and positive influence on performance of the organization. This implies that product design of new with appropriate technology has absorbed the organization from the threat of new competitors. Also, the company uses an effective knowledge management method to establish new product development. Further, product differentiation taken by the organization can lead to variations in performance. Finally, customer experience has been improved through product and service development.

5.2.3 Operation Risk Mitigation

The study found that operation risk has a significant and positive influence on performance of the organization. This implies that risk perception has been reduced hence mitigating operational risk. Also, monitoring and evaluation have been enhanced to mitigate operations risk. Further, risk assessment has been enhanced through operations risk mitigation. Finally, task segregation has been enhanced through operations risk mitigation.

5.3 Conclusions of the study

The study concludes that product reengineering has a significant and positive influence on performance of the organization. The study further established that product performance,

compliance, durability and serviceability have been enhanced through product reengineering based on understanding the market competition. This shows that improvement of product reengineering will definitely improve performance of tea organizations.

In addition, the study concludes that product development has a positive and significant influence on organizational performance. The study further established that Product design of new with appropriate technology has absorbed the organization from the threat of new competitors. Also, the company utilizes viable information the board technique to build up new item improvement. Further, Product differentiation taken by the organization can lead to variations in performance. Finally, customer experience has been improved through product and service development. This shows that improving product development led to improvement on organizational development.

Further, the study concludes that operation risk mitigation has a significant and positive influence on performance of the organization. The study further established that risk perception has been reduced hence mitigating operational risk. Also, monitoring and evaluation have been enhanced to mitigate operations risk. Further, risk assessment has been enhanced through operations risk mitigation. Finally, task segregation has been enhanced through operations risk mitigation. This shows that improving operation risk mitigation leads to improvement organizations.

5.4 Recommendations of the study

The study recommends the following;

1. The sugar firms should always understand market competition through product reengineering in order to realize product performance, compliance, durability and serviceability.
2. Sugar firms should incorporate appropriate technology to make them more competitive from the threat of new competitors. Also, they should utilize an effective knowledge management technique to build up new item advancement.

5.5 Suggestions for further Study

The current examination focused uniquely on the three goals on the on operation strategic and performance of the organization of sugar companies in western Kenya. Hence, an investigation

ought to be done on the strategic operations and performance of the organization of sugar companies in western Kenya.

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APPENDIX I: QUESTIONNAIRE

SECTION A: BACKGROUND INFORMATION

1. What is your Gender; Male Female
2. What is your age bracket; 18-29 years 30-39 years 40-49 years Over 51 years
3. For how long have you been employed in sugar company?
Below 5years between 5 – 10 Years 10 years and above
4. What is your highest level of education; Certificate Diploma Undergraduate Masters

Other specify.....

SECTION B: PRODUCT REENGINEERING

What is your opinion on on the effect of product reengineering on organizational performance?

(SA: Strongly Agree; A: Agree; UD: Undecided; D: Disagree and SD: Strongly Disagree)

		SA	A	UD	D	SD
	Statements	5	4	3	2	1
1.	Product performance has been achieved through product reengineering					
2.	Product compliance has been enhanced through product reengineering					
3.	Product durability has been enhanced through product reengineering					
4.	Product serviceability has been enhanced through product reengineering based on understanding the market competition					

SECTION C: PRODUCT DEVELOPMENT

What is your opinion on effect of product development on organizational performance?

(SA: Strongly Agree; A: Agree; UD: Undecided; D: Disagree and SD: Strongly Disagree)

		SA	A	UD	D	SD
	Statements	5	4	3	2	1
5.	Product design of new with appropriate technology has absorbed the organization from the threat of new competitors					
6.	The company uses an effective knowledge management method to establish new product development.					
7.	Product differentiation taken by the organization can lead to variations in performance.					
8.	Customer experience has been improved through product and service development					

SECTION E: OPERATIONS RISK MITIGATION

What is your opinion on the effect of Operational risk mitigation on organizational performance?

(SA: Strongly Agree; A: Agree; UD: Undecided; D: Disagree and SD: Strongly Disagree)

		SA	A	UD	D	SD
	Statements	5	4	3	2	1
9.	Risk perception has been reduced hence mitigating operational risk					
10.	Monitoring and evaluation have been enhanced to mitigate Operations risk					
11.	Risk assessment has been enhanced through Operations risk mitigation					
12.	Task Segregation has been enhanced through Operations risk mitigation					

SECTION F: ORGANIZATIONAL PERFORMANCE

In your own opinion, do you agree to the following statements on organizational performance?

(SA: Strongly Agree; A: Agree; UD: Undecided; D: Disagree and SD: Strongly Disagree)

		SA	A	UD	D	SD
	Statements	5	4	3	2	1
13.	There is a notable increase in market share					
14.	There is customers satisfaction on the organization operations					

15.	There is introduction of new product through using Operational strategies					
16.	There is a significance increase in the product/service quality by using operational strategies.					

APPENDIX II SUGAR PRODUCTION IN TONNES

Sugar Companies	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Nzoia Sugar Company								
Chemelil Sugar Company								
Mumias Sugar Company								
Muhoroni Sugar Company								
South Nyanza Sugar Company								
Sony Sugar Company								
Western Kenya Sugar Company								
Kibos Sugar Company								
Butali Sugar Mills								

Transmara Sugar Company								
Total								

APPENDIX III TOTAL ASSET TURNOVER RATIO

Sugar Companies	2011- 12	2012- 13	2013- 14	2014 -15	2015- 16	2016- 17	2017- 18	2018-19
Nzoia Sugar Company								
Chemelil Sugar Company								
Mumias Sugar Company								
Muhoroni Sugar Company								
South Nyanza Sugar Company								
Sony Sugar Company								
Western Kenya Sugar Company								

Kibos Sugar Company								
Butali Sugar Mills								
Transmara Sugar Company								
Total								

APPENDIX IV NET PROFIT RATIO

Sugar Companies	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Nzoia Sugar Company								
Chemelil Sugar Company								
Mumias Sugar Company								
Muhoroni Sugar Company								
South Nyanza Sugar Company								
Sony Sugar Company								

Western Kenya Sugar Company								
Kibos Sugar Company								
Butali Sugar Mills								
Transmara Sugar Company								
Total								

APPENDIX V EARNINGS PER SHARE

Sugar Companies	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Nzoia Sugar Company								
Chemelil Sugar Company								
Mumias Sugar Company								
Muhoroni Sugar Company								

South Nyanza Sugar Company								
Sony Sugar Company								
Western Kenya Sugar Company								
Kibos Sugar Company								
Butali Sugar Mills								
Transmara Sugar Company								
Total								

APPENDIX VI SALE VOLUME

Sugar Companies	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Nzoia Sugar Company								
Chemelil Sugar Company								
Mumias Sugar Company								

Muhoroni Sugar Company								
South Nyanza Sugar Company								
Sony Sugar Company								
Western Kenya Sugar Company								
Kibos Sugar Company								
Butali Sugar Mills								
Transmara Sugar Company								
Total								