

MICROENVIRONMENTAL FACTORS AFFECTING PERFORMANCE OF FOOD  
PROCESSING FIRMS IN KENYA

BY

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## DECLARATION

I declare that this proposal has not been submitted in any institution for award of any degree.

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**Dr. Abraham Rotich**

## **DEDICATION**

This dissertation is dedicated to my family.

## **ACKNOWLEDGEMENT**

Appreciation is to my supervisor, Dr. Abraham Rotich, for his guidance through the research. I also appreciate my colleagues and the lecturers at KCA university for their support. I thank my family and friends for their support.

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## **LIST OF ABBREVIATIONS**

<b>EDI</b>	Electronic Data Interchange
<b>ERP</b>	Enterprise Resource Planning
<b>GDP</b>	Gross domestic product
<b>HACCP</b>	Hazard Analysis Critical Control
<b>ICT</b>	Information and Communication Technology
<b>KAM</b>	Kenya Association of Manufacturers
<b>RBV</b>	Resource based view
<b>SAFIC</b>	South Austrarian Fishing Industry Council
<b>SE</b>	Standard Error
<b>US</b>	United States

## **OPERATIONAL DEFINITION OF TERMS**

Employee Competence	It is considered as Combination of measurable, observable skills, abilities, personal attributes and knowledge a that enhance employee performance
Firm performance	This is the total functioning of an organization ranging from performance of employees, manufacturing of services and goods and functioning of different firm units.
Innovation	It is the process of translating an idea or invention into a good or service that creates value or for which customers will pay
Safety management	Management of business activities through application of relevant principles and regulations framework that minimize risks and at the same time reduce accidents and injuries.
Technology	Tools and machines that may be used to solve real-world problems

## **ABSTRACT**

Many questions have risen as to why the firms are performing poorly with tremendous government support. This study seeks to determine microenvironment factors affecting the performance of food processing firms in Kenya. Specifically, it seeks to determine the effect of safety management in performance of food processing firms; assess the effect of innovation in performance food processing firms; evaluate the effect of employee competence on performance of food processing firms; establish the effect of technology adoption in performance food processing firms and how firm resources affect performance of food processing firms.. The study will use descriptive research design. The target population will be 44 food processing firms in Kenya. 22 firms will be selected using census. Purposive sampling will be used to select 110 respondents (5 employees in each firm). Data will be collected using a questionnaire administered by the researcher. The data will be analyzed using descriptive and regression then presented in tabular form.

**Key words:** Safety management, Innovation, Employee Competence, Technology, Firm resources, Firm performance

# CHAPTER ONE

## INTRODUCTION

### 1.1 Back Ground of the Study

The performance of manufacturing firms has been of interest to scholars because a number of factors, which are micro and macro factors, has driven it. Micro variables are the internal specific factors that management can control. Macro-economic are external factors that are beyond control of management. The environment forces that affect companies in a specific industry are known as micro factors. They have direct impact on company's success.

Firms are seen to have bundle of resources and dynamic capabilities that enable them to grow and to engage with external environment. (SAFIC, 2011). Internal factors in a firm are physical, human and financial resources that firms have and develops them over time. Market economic institutions, social and political institutions are the external factors. Performace of a firm is obtained through management of both micro internal and macro factors that are affecting the firm in order achieve efficiency and effectiveness Verboncu and Zalman (2005). For a firm to be competitive it has to place the necessary measures that places it ahead of other firms. A firm has to adopt right technology, put safety measures in place, have continuous innovation as well as have competent staff Siminica (2008). This way a firm will be able to manage its resources improve its efficiency therefore becoming effective. Firms growth will be demonstrated through profitability achieved over time Colase (2009).

Competitive advantage of a firm is increasingly dependent on rare, non substitutable, valuable and unique resources where innovation is one of these special resources as expressed in resource based theory (Christensen, 2000). Wernerfelt (2001) has attached critical importance on the ability to continually innovate to sustain competitive advantage. Innovation is an intangible resource, which is not only important for competitive advantage but also for sustainability of a firm (Christensen, 2000).

Firms that have maintained consistent performance have considered information and communication technology as a fundamental tool (Limbu 2014). Information and communications technology changes the process of business by modifying the storage, retrieval, processing and dissemination of information (Apulu and Ige, 2011). Adoption of ICT encourages business to compete globally by not only improving efficiency but also establishing closer relationships with their customers and suppliers (Alam and Noor, 2009). Performance of a firm has positive correlation with ICT in terms of profitability, productivity, market value and share (Yildiz 2013). Adoption of ICT is important in different industries as ICT benefits them in terms of efficiency, effectiveness, innovation, growth and competitiveness (Consoli, 2012; Kannabiran and Dharmalingam, 2012).

Internationally food supply chains and firms are facing an increasing pressure to deliver safe, attractive and healthy food in highly competitive environment (Jacobs, 2007). Strong pressure has been imposed on true innovation on short cycles. Therefore, information technology becomes a key factor in achieving short cycles of innovation. This is because smooth integration of information in all relevant business processes leads to standardized communication (Verdouw et al., 2007). The urgent need to meet world's food demand in a productive and sustainable way presents enormous opportunities for innovations using ICT (ICT4Ag).

Most mid-sized beverage and food processors and distributors have seized growth opportunities and located their processing firms in the U.S and abroad to expand operations (Alam and Noor, 2009). This is because they are using latest technologies and systems to support new markets, new product lines and regions, which eventually lead to greater opportunities. Prudent companies have taken measures to ensure that growth is coupled with improvements in process efficiencies, asset productivity, operational flexibility and highly accurate information to minimize risks and idle operations (Limbu 2014).

Employee competence has been highly embraced internationally where Human resource activities have influenced organizational performance (Bach, 2001). The main goal is to allow employees to obtain the necessary skills in their course of employment and the firms to remain competitive (Franklyn, 2006). They have reward systems geared toward retaining competent

skilled employees to remain competitive (Fay, 2000). According to (Ghebreorgis & Karsten, 2007), competent employees benefit organizations in all areas of operations in an industry right from technology, safety management, innovation and management of organization resources. Training practices, appraisal systems, compensation of employees are used as motivational to employees internationally (Fay, 2000). Good safety management systems define how things should be done within the firm, the achievement of organizational goals effectively and efficiently through human organization, planning, directing and controlling of available resources (Daft, 2000).

Therefore, safety management must define how operational practices are structured within the organization to obtain better results. Best results are generated by combining a variety of tools and techniques (Ishikawa, 2001). The idea of safety management is not just a collection of tools and techniques, but integration of statistical techniques and processes within the operation of the companies (Feigenbaum, 2000). Safety management practices focus on continuous improvement, team work to redesign processes, improved employee competence, reduced rework, meeting customer requirements, closer customer relationship and reduced time in problem solving (Sha'ri and Aspinwall, 2000).

According to (Pekar, P.J., & S., 2010), successful firms are considered to have long term strategy compared to those who have not acquired one. This success is achieved through management of micro factors in a firm. Santos and Brito (2012), states that internal factors are safety management, innovation, management of employees and adopting right technology. All these well managed they lead firm profitability, growth and customer satisfaction.

### **1.1.1 Micro Environmental Factors**

Factors that have important effects on determination of firm performance are divided into micro and macro factors (Wellage, 2012). Samnani (2014) found macro environmental factors to be key to firm performance compared to micro environmental factors. Internal factors affecting the firm are micro environmental factors while external factors are macro environmental factors. Change in macro factors affects the internal operations of the firm either positively or negatively. Just as

change in the micro environment may have the same impact as macro on the performance of the impact (Wei & Zhang, 2018).

Micro factors have direct impact on the performance of the business and its environment. They have close contact with the business organization and affects daily activities of business (Rauch & Frese, 2010). They are internal since they revolve in the small areas of operations. According to Talaso (2015), the micro determinants originate from firm specific and industry specific variables affecting performance, hence, they are also known as firm specific factors. Micro factors are considered as collection of all firms operating forces that are direct to its operations. They are specific to the business since they influence operations and performance of the business on daily basis. If the firm understands factors affecting the business, then long-term strategies of development will be achieved through proper planning and preparation (Said, 2014).

Micro factors are elements that are that can be controlled by management (Talaso, 2015). Micro factors affects different companies in different ways in the same industry since they have different capacity, size strategies and capability .They may not give the same concessions to small firms. They show the firms grey areas and at the same time suggest important areas to develop like production, technical areas, cost management trade and marketing among other (Volberda, 2014).

Capacity is a key factor that determine the performance of a firm. Firms production capacity can be measured through the volume of goods and eservices that can be produced using available resources. Manufacturing firm capacity can be defined as capability of anobject, either a a work center operator or a machine producing an output for a specified period. According to (Tybout, 2010), the input, output or a combination of the two is used to measure companies capacity. The capacity is also measured by the technology adopted; the management systems adopted; the

capabilities and experience of the employees; and the level of innovation in a firm (Gill et al, 2014).

Business environments are faced by competition. A firm has to ensure that it has a competitive advantage over its competitors. Competition involves comparison of individual firm performance in a standardized manner or benchmarking with another firm or industry which is aware of criterion to be used for evaluation process (Porter, 2008). It occurs in business environs where sellers are thriving to get the best offers from buyers. In the process of buyer seller interactions, a lot of information is signaled through product/ service prices therefore most sellers will cut prices to attract buyers (Carlton & Dana, 2014). Every firm in operation with a profit-oriented goal will have to face competition in order to excel through improved financial indicators (Joeke & Evans, 2018).

Competition is measure in terms of buyer rivalry, new entrants, and competitive rivalry, which influence the performance of firms (Heron & Whitman, 2011). Where the competition is high, firms tend to perform poorly as the competitors reduce their market share (Sheth & Sisodia, 2012). This in turn leads to low sales revenue and hence reduced profitability. The competitiveness of a firm acts as moderator of relationship between organization's characteristics and its performance. A firm has to ensure that it has strategies in place that give competitive advantage over its rivals. Competitive advantage that a firm has is due to its characteristics like assets, employee competence, market share, unique technology adopted (Davidow, 2011). Sheth and Sisodia (2012) on the other hand indicated that firm competitiveness is supported by innovation, safety procedures, number of employees, production capacity and number of assets. Safety management, innovation, employee competence and technology

adopted will be used as the micro factors that give competitiveness to a firm. The factors will be related to financial performance as measured by profitability.

### **1.1.2 Firm Performance**

According to Robbins (2017) firm performance was defined as the extent to which organization could consider its means and end through social system. According to Cherrington (2019) performance became as a concept of effectiveness and an indication of success to an organization that it is performing effectively to achieve its goals. For an organization to guarantee a high-quality performance, the company should expose employees to new and up to date knowledge and skill (Santos & Brito, 2012). These would in turn help them to be at par with changes in the market and consequently increases the quality of organizational performance.

Company's performance can be looked at in three areas, which are, productivity, capacity to process inputs into final products efficiently. Secondly is the dimension of profitability where company's earnings level are higher than costs. Market premium is the third dimension, where the company's market value exceeds the book value (Wellage, 2012). According to (Banker, Chang, Pizzini, 2014), performance of firm entails actual output measured against the intended goals, output and objectives.

Performance of a firm is obtained through management, marketing, economical management of resources to achieve competitiveness through efficiency and effectiveness (Verboncu & Zalman, 2015). According to Siminica (2018) a firm will be considered a performant when it has time effectiveness and efficiency. This is demonstrated by two variables that is efficiency and efficacy. Performance is viewed as a basket that carries in it, efficiency, growth competitiveness and profitability (Bartoli & Blatrix, 2015).

According to Bourguignon (2017), performance is an action, with a certain behavior and not just, as a result. An organization with high standard performance level is that protects, honours and satisfies the demand of stakeholders. Principally, performance of an organization focuses on the capability of an organization to exploit available resources and consistently accomplishing its objectives as well as considering their relevance to its users (Peterson, Gijbers & Wilks, 2013).

For a firm to monitor its performance it is critical to have measures in place though there are no standard measurements and indicators regarding firm performance. Profitability, growth, customer satisfaction, environmental performance, employee satisfaction has been argued as the indicators of firm performance (Santos & Brito, 2012).

The performance of manufacturing firms has been of interest to scholars because a number of factors, which are micro and macro factors, has driven it. The environment forces that affect companies in a specific industry are known as micro factors. They have direct impact on company's success (Teece et al., 2017). Firms are seen to have bundle of resources and dynamic capabilities that enable them to grow and to engage with external environment (Safic, 2011).

### **1.1.3 Food Processing Firms**

Food processing entails conversion of raw materials into food to produce marketable, attractive and long shelf-life food products. Food processing firms are considered as the sunrise industry because of their potential for growth and the impact they have on social economic growth (Rais et al., 2013). They produce safe, readily available, quality and affordable products to their consumers (Lehmann et al., 2012). For these industries to thrive there is need to be efficient, in order to give their customers assurance of safety and quality products. This also leads to efficient organizational control processes (Lehmann et al., 2012).

The industry generates revenue from sale of processed foods to customers ranging from large chains to small players along the processing chain. The firms do not just add value to the agro products but also increases their level of utility. In order to move products from the producer to customer there are many functions that are carried out. They require funding for each of them, expertise and knowledge. Unfortunately, few firms have the capacity and enough resources to carry out all these.

## **1.2 Statement of the Problem**

Performance and economic benefits of the manufacturing firms has been point of concern considering that other sectors of the economy like real estate and telecommunications have surpassed their contribution to the GDP (GOK, 2014). Manufacturing firms have been faced with job loss in the past five years therefore crippling the sector and preventing it from moving from infancy stage. This is as a result of companies stopping production altogether or moving production plants to neighboring countries (Muthui, 2014).

Many questions have risen as to why the firms are performing poorly with tremendous government support. The government has made tremendous effort by injecting capital to revive food-processing firms in Kenya to meet the vision 2030 (Kariuki, 2015). Despite the efforts, the performance of these firms has been poor with no value addition to the GDP of the country's economy. Every year government allocates budgets for these firms yet no positive results, which leads to wastage of taxpayer's revenue, which could be resourceful in different areas. Most of the firms have been closed down. Even though several macro factor challenges are faced by the manufacturing sector (Wetende, 2014), improvement in micro factors can counter the effect leading to improvement in performance. It is this fact that has necessitated an enquiry on the role of micro factors on the financial performance of manufacturing firms in Kenya.

Empirically, research conducted has focused on micro environmental factors and performance of firm. Globally, Said (2014) compared European countries based on the determinants of firm performance. The research done concentrated in Italy, Sweden and Switzerland. The study found that microenvironmental factors positively influenced financial performance. Study used micro factors and financial performance as variables in its analysis. Alomari and Azzam (2017) studied Macro and Micro Factors that affected Performance of the listed firms in Jordan. Findings showed that micro factors had a negative effect on performance. This paper focused on micro factors which makes it similar to our current study. Financial performance was used as the dependent variable which makes it relevant for review. However, the study was done on European countries other than Kenya.

Samnani (2014) studied macro-environmental factors effecting fast food industry. He found that macro environment influenced firm performance. The study used financial performance as the dependent variable which makes it similar to the current study. The study was done on microenvironment with the current study focusing on micro environment. The study was also done on fast foods while the current study focuses on food processing manufacturing firms. These studies show conflicting results on microenvironmental factors and firm performance. This creates the need for a local study on microenvironmental factors and performance of a firm in Kenya.

Ndeto(2017) did a study on the factors affecting the performance of franchisees in the fast food industry in Kenya. The study found that micro and macro factors influence firm performance. The study also focused on the general factors other than micro environmental factors influencing performance. The study focused on fast food industries with the current study focusing on food processing firms. Maina(2017) studied the effects of environmental factors on performance of

Barclays bank. The study found that environmental factors affected the performance of Barclays bank. His study focused on banks other than manufacturing firms. The study focused mainly on macro environmental factors assuming the micro factors which is the main variables of the study. The study was done as a case study while the current study was done as a census survey.

Kariuki(2015) did a study on firm level factors, competitive strategy, industry environment and performance of large manufacturing firms in Kenya. In his study, focus was emphasized on firm level factors (micro factors) which is the focus of the study. The focus was on manufacturing firms which is similar to this study. However, the study included industry environment in its analysis. Wetende (2014) did a research on external environmental factors affecting performance of export of services sector in Kenya. The study was based on external environmental factors other than micro factors. The study used export of service firms other than food processing firms which makes the context different.

Despite the studies focusing on factors influencing firm performance, the studies done have concentrated on macro factors other than micro factors. The studies have also focused on other firms other than food processing firms. Majority of the studies done on microenvironmental factors and firm performance have been done outside Kenya. The studies have also shown conflicting findings with some showing positive effect with others giving a negative effect. Food processing firm was chosen because of its importance not only within Kenya but Africa and entire world. Therefore, the study seeks to fill the research knowledge gap by assessing impact of micro factors on performance of food processing firms in Kenya.

### **1.3 Objective of the Study**

#### **1.3.1 General Objective**

The general objective is to determine microenvironment factors affecting the performance of food processing firms in Kenya

#### **1.3.2 Specific Objectives**

- i. To determine the effect of safety management in performance of food processing firms
- ii. To assess the effect of innovation in performance food processing firms
- iii. To evaluate the effect of employee competence on performance of food processing firms
- iv. To establish the effect of technology adoption in performance food processing firms
- v. To establish the effect of firm resources on food processing firms

### **1.4 Research Questions**

- i. What is the effect of safety management on performance of food processing firms?
- ii. How does innovation affect the performance of food-processing firms?
- iii. What is the effect of employees' competence on performance of food processing firms?
- iv. What is the effect of technology adoption in food processing firms?

### **1.5 Significance of Study**

The research will be both theoretical and practical to policy makers. From a theoretical perspective, this study enhances the understanding of micro factors and performance of food processing firms from a Kenyan perspective. Thus, it adds to the body of knowledge in this area and equips future researchers with sufficient grounding to further conduct further researcher in this area.

Practically the stakeholders will see the ideal situation of how micro factors can affect the food processing firms. It will assist in making strategic decisions, which will lead to reduction of cost.

### **1.6 Scope of the Study**

The study will focus on food processing firms in Kenya. The variables on focus are adoption of technology, safety management systems, employee competence and innovation in food processing firms. These variables are will be used because they are easy for small and medium enterprises to use them and measure performance (Liang, You & Liu, 2010).

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter will represent theoretical framework. It will capture various theories that relate to impact of micro factors in performance of food processing firms. It also represents the empirical literature on employee competence, innovation, safety management and adoption of technology. Conceptual framework has been used to show the relationship between variables. Finally, the chapter discusses on the knowledge gap.

#### **2.2 Theoretical framework**

Theories explaining effect of micro factors on financial performance are Resource-based theory, Agency theory and stakeholder theory.

##### **2.2.1 Resource Based Theory**

Theory of resource based was developed by Porter in 1991. Oliver 1997, considered it one of the substantial theories of strategic management. It supports the fact that if the resources are valuable, then they can act as source of competitive advantage for the organization and at the same time firms can evaluate their potential resources that it has which lead to its success in the emerging markets (Kozlenkova 2014). According to Barney (2001) RBV enables the firm to examine whether the resources of the firm are valuable or can they assist the organization to achieve their expected. The purpose of evaluating resources is to get a deeper understanding which resource has uniqueness and not available to the competitors. Resource based theory

has been in used for many decades, to answer questions raised in the field why firms differ, their behavior, their kind of management and choices of strategy to suit industries specific needs(Spanos and Lioukas2011),

According to Peteraf and Bergen (2013)firms will have a competitive advantage based on their capability and resources.Competitive advantage has its roots in internal resources as opposed to their external environment positioning (Barney,1995). According to (Ainuddin,2007) RBV is used to communicate to the firm by giving an indication of resources that are owned an controlled by firm that have the capability to generate competitive advantage and eventually give the firm a superior hedge against competitors. The fundamental principle of the RBV is that the basis of competitive advantage of a firm lies primarily in the application of valuable resources at the firm's disposal (Waernerfelt ,2000)

Resources possessed by firms are viewed as fundamental determinants of performance and competitive advantage. According to (Barney 1991), the intention of RBV is to identify strategic resources that have an excellent opportunity which create an advantage over the competitors and therefore yielding more profits to organization. According to Fahy (2000), the essential element of RBV is characterized by strategic management choices made bymanagement team, sustainable competitive, superior performance,characteristics and types of advantage that generates resources. Barney(1991) states that strategic resources are rare, difficult to imitate, nonsubstitutable and valuable which provide competitive advantage and sustainable market retention. For a firm strategy to be implemented ,it requires key resources that are valuable to satisfy customers needs and thereby improving performance(Clulow, Gerstman and Barry 2003).

The value of a rare resource exonerates itself when it is not simultaneously implemented by majority of the firms (Barney, 1991). On the other hand, inimitable resources gives firm a monopoly and therefore dictating the market (Clulow, Gerstman and Barry 2003).

Barney and Peteraf (2013) states that, RBV has two assumptions in use in analyzing sources of competition. There is an assumption that heterogeneity of firms can be witnessed in an industry in regards to resources they control. The second assumption is that resource heterogeneity may persist over time because the resources used to implement the firm's strategy are not perfectly mobile across firms. According to (Wu 2010), resources that are important for functioning of the company are either tangible or intangible. According to RBV theory, firm's competitive advantage is based on the possession of intangible and tangible resources, which are not in possession of other firms and at the same costly to acquire. Differences in the firm profitability that are not attributable to differences in industry conditions are explained by Resource Based Theory (Peteraf, 1993).

Resource uniqueness is considered as a necessary bundle that contribute to competitive advantage (Barney, 1991). For example, it can be argued that various categories of shareholders have considerable resource heterogeneity. The differences arise from shareholders being either strategic, financiers, foreigners or local. Their impact is realized on firm performance when these diverse resources are consequence of heterogeneity. This is felt through provision of access to different markets, creating a learning environment and provision of actual benefits. RBV theory determines resources available within the firm and aligns them with firm's capability. This then draws the firm attention into profitability and entire value factor brought about by the firm (Colbert 2004). RBV clarifies firms that have achieved excellent strength in terms of capability

is due to non-substitutable and extra ordinary range of resources available, which leads to firm success in the emerging economy of the world (Das and Teng 2000).

Firms capability is considered to be the capacity of the organizations resources available at their disposal and its techniques used by the firm to perform tasks (Kolenkova 2014). Firms cannot operate without inputs otherwise they will not yield results and these inputs are the resources. They are categorized as technology capacity, raw materials, financial support, brands, human resource, customer loyalty (Hart 1995). The way to face competition is through identification, nurturing and exploitation of core competences that lead to growth therefore securing a portfolio of core competences rather than businesses. Resource based theory is regarded as one of process that is that operates from inside the firm and focusing the methods through which the firm collects resources (Das and Bing-Sheng, 2000). According to Gimeno (1991), RBV enables an organization to innovate products and customize them to fit their portfolio.

Core competences are as a result of collective learning, especially in integrating multiple chains of technology and delivering value to customer (Johnson, Scholes and Whittington, 2008). RBV emphasizes on customers seeing the competences as unique. This supports the study in that the actual sources of competitive advantage and improved performance are found in the ability to consolidate technology and production capacity of a firm. A firm will gain competitive advantage over a number of industries if it has a combined set of skills (Walsh and Linton, 2001).

The critiques argue that RBV stands on analytical statements, which are tautology. Spender, Groen (2010) demonstrates that competitive advantage and valuable resources are indefinite in notion of value. This notion of value concept was clarified further by, Bowman and Ambrosini

(2000), that will of customer to pay and value paid in exchange of for products or service. Value the level of firm innovation and value uncertainty of specification of resource are critical for a profitability firm (Kraaijenbrink, Spender and Groen 2010). Strategy must align itself with the environment; this environment Porter identifies it as customers(Lucas and Kirillova, 2010). Identification of resources and changing them according to customer preference is key. RBV has not emphasized much on opportunities and threats facing firms, which are critical in environmental analysis, and market penetration which were supported by Priem and Butler(2008). Unfortunately, RBV itself does not cater for such alternative eternal determination (Kraaijenbrink, Spender and Groen 2010).

This theory clearly demonstrates that firms have to manage their resources to achieve competitive hedge. Firms have to manage their resources in such a way that they will remain competitive in the market and enjoy long term profits since resources are key in an organization.

There is no success without resources, which are employee competence, right technology, innovation and safety management. This makes this theory relevant to this study..

### **2.2.3 Agency Theory**

This study was developed by Jensen and Meckling (1976), which portrayed the firm as a black box, which operates to maximize its value and profitability. Agency relationship arises where the principal engages agents to perform service on his own capacity. The theory postulates that the principal delegates decision making to his agent. Conflicts in agency rise because of lack of proper delegation, improper contracts and thereby decisions made affect both the welfare of the principal (Brennan 1995).

Conflicts of interest between the shareholders and managers result to loss known as residual loss which is the key component of agency cost (Williamson 2000). To reduce this loss, the owners incur monitoring cost and bonding cost. These costs are measured using direct measures of agency costs (Ang, 2000). According to (Sighn and Davidson 2003), agency costs are measured using the asset utilization ratio and expenses ratio.

Managers bear cost of negligence through failing to pursue their own goals and concentrating only on a fraction of benefits. The theory posits that agency has got its costs which arise from loss in value of shares held due to wide interests between the corporate managers and the shareholders. These are reflected in company's share price and captured in financial markets. Agency costs are the total costs of monitoring, bonding and residual loss (Jensen and Meckling 1976).

Due to rise of risks associated with unaligned strategic goals agency theory is used to resolve the problems. Agency theory is concerned with resolving problems that can exist in the relationship due to aversion of different levels of risk and unaligned strategic goals. Agency relationship exists between shareholders and company executives where the shareholders are the principal and the executive the agents (Eisenhardt and Martin 2000).

According to Campbell and Underdown (2011), differences may arise as a result of differences arising between the agent and the principal. For example, a principal can be prohibited from gathering crucial information. The executive having a desire to expand the organization whereas the shareholders wish to have high return on their share earnings (Damodaran, 1997). This theory relates to the study in that the management handle all operations and control the micro factors, which may affect firm performance. According to (Ang, Cloe and Lin, 2000), with proper management of the firm, problems associated with agency can be mitigated. There are limitations

associated with agency though the theory is pragmatic and popular because it does not take into consideration of uncertain future when contract agreement between the principal and agent are made (Daily, 2003).

Agency theory has been criticized by in that, positivist agency researchers have concentrated only on the agent side of the principal and agent problem and opined that the problem may also happen from the principal side (Perrow 1999). Sanders and carpenter (2003) criticized the positive agency theory on various grounds that they propounded a different agent theory called behavioral agency theory.

Successful firms have brought in board partners as part of their competitive strategy, either through franchise, joint ventures and partnership which has really showed positive progress of the firms. This therefore demonstrates relevance of agency theory in the research.

#### **2.2.4 Stakeholder Theory**

Stakeholders are group of individuals who are affected by company's purpose. These include competing organizations, suppliers customers and staff members (Boddy 2018). Stakeholders can extend to the whole society, due to widely spread effects of many businesses. According to Sloman (2010), groups are significantly affected by the operations of the organization. Groups have significant stake in what the organizations does or are affected by the actions of the company either directly or indirectly either as a group or individual. According to Robbins (2017), relationship established with stakeholders can lead desirable organization outcome such as successful innovation, and flexibility to organization change and improved predictability of environmental changes. Identification of stakeholders is a step towards managing them.

According to Scholl (2014) and needs, stakeholders should be complimented through identification of their stakes. Stakeholders needs have grown since their definition has changed from those that an organization cannot exist without to those that are affected by organization objectives.

Stakeholder theory explains firm and inter firm behavior and the outcomes that arise in different business and non-business disciplines (Freeman, Harrison, Wicks, Parmar, &De Colle, 2010). The observation made is that there are two ways between relationship between relationship stakeholders and firms. Stakeholders provide firm with resources needed for create value and firms are required to give back value to stakeholders.

Stakeholders have been defined as those individuals or group of individuals who have interest in the outcome of the body of a work in an organization (Johnson, Scholes & Whittington, 2018) states that stakeholders are people who organization depends on or who depend on an organization to fulfill their own goals. According to Johnson et al (2018) they are considered to have power to positively or negatively influence the project, it deliverables and its team members. Therefore, they are the key people involved in the project execution, approvals, resources and have stake in outcome. Projects will require the authority of stakeholders for them to progress and have scope.

Stakeholder engagement arises where a firm continuously brings on board more processes through impacted stakeholders who have the potential. It recognizes business and reputational risks that may arise as a result of poor relations. According to Freidman and Mile (2016) stakeholder empathizes on transparency in reporting and corporate responsibility. Corporate Stakeholder engagement can further be defined as a process of effectively eliciting the stakeholders' views in lie with the organization.

Gray (2012) states that, stakeholder is becoming essential in business and its used communication improvement, which leads to wider support from the community,enhancing public sector reputation, encourages sustainable decision, making and gathering useful information. All these put together will benefit the environment in which the company operates. According toGreenwood(2017), an organization becomes more accountable and responsible through stakeholder engagement. Nolan and Phillips (2010) states that traditionally stakeholders were seen as corporate responsibility but that is no long sufficient since it has become a necessity in business activities. This theory relates to the study in that the stakeholders need to see value of the firm which is defined by the micro factors.

Stakeholders are key in the management of the firm;they need to understand the business environment, which the organization is operating. They need to understand the performance of the firm and also to get value for their investment. Therefore, this theory is relevant in that stakeholders influence the performance of an organization.

## **2.3 Empirical Literature**

### **2.3. Safety Management and Firm Performance**

According to a study done by Gill, Singh, Mathur and Mand (2014), constructive performance of the firm is achieved through good safety management practices.Aswathappa(2017), describes safety management practices as aligning strategies in human resource to accomplish organization goals.Good safety management systems defines how things should be done to achieve organizational goalsefficiently and effectively through directing, planning and controlling of available organizational resources (Daft, 2000).Continuous improvement of organizational performance is a major challenge in contemporary managers.In food processing firms,

the challenge is directly related to food safety and performance of the quality management system. This because the prerequisites for food processing firms are production and marketing of foods that are of good quality, suited to the needs of the final consumer with no harm and with minimal cost in order to remain competitive in the medium and long term (WHO, 2010).

According to Nyambok and Kastner (2012), requirements for compliance certificates for food processing firms has become the first step towards continuous improvement of quality and safety management. Recently United States has begun pressurizing Chinese to provide certification of manufacturers and their products. The USA is also seeking to offer incentives to importers who are advocating good food safety practices. Firms with foreign ownership benefits from foreign skills. Risks management in an integrated way has become increasingly important in an organization since it improve firm's productivity, economic and financial health. This also reduces number of accidents rates (O'Toole, 2000).

According to Deming (2016), system and not employee cause poor quality. He recommends that it is the duty of top management to understand and look at the company as complex system. Quality is the integration of statistical techniques and processes rather than collection of tool and techniques (Wallace, Powell & Holyoak, 2015). Gryna and Juran (2018) advocated for a concept that would improve quality performance to unprecedented levels. Food management system entails coordinated activities that guide an organization in relation to production of safe food (Rijswijk & Frewer, 2018). Consumers' attitude toward food safety is dominated by levels of uncertainty.

Safety management system must be well defined and structured within the company to obtain better results. These results are generated through combination of variety safety measures instead of single one Ishikawa (2001). Safety management system has been described as a system that helps an organization to achieve excellence (Sha'ri and Aspinwall, 2001). The performance of safety management system is affected by adjustments to the internal organizational structure (Zhang 2012). Issues related customer focus, continuous improvement, process management, human resource and leadership are critical factors in safety management (Sila and Ebrahimpur, 2003).

Working conditions that are not safe for employees reduce staff morale and motivation as well their identification with the company. Training and development of employee competence in order to improve skills and ability in terms if skills management is important (Guldenmund, 2000). Communication and transfer of information about work place safety should be prioritized to combat risks (Silva, 2004). With satisfactory working conditions companies reap both direct and indirect benefits. Direct benefits are achieved by workers themselves because they are the most affected by accidents and the firm, which gains profitability through reduced losses (Mossink, 2000).

Food processing firms are not only responsible for producing safe food but also have been mandated to demonstrate transparency that food safety has been properly planned and guaranteed within the processing firms. This achievement has been brought about by development of Hazard analysis of critical control points (HACCP) systems as part of ensuring the safety of food in processing firms (Motarjemi and Mortimore, 2005). International companies that are performing well they have committed themselves to implementing Food Safety Management (FSMS), Quality and Management Systems (QMS) which are aligned to both national and international standards (Van Rijswijk and Frewer, 2008)

Organization that need to keep its skilled employees in work place they are required to improve their safety measures. It is not easy to replace a skilled worker and therefore firms are advised to keep strict safety measures to ensure productivity achieved and loss of firm reputation (Smallman and John, 2000).Tari (2017) indicates that, quality management allows companies to achieve a high degree of completion and reduction of cost.Hazard Analysis Critical Control (HACCP) is systematic approach to food safety, which relies on identification, and control of all food hazards in food chain through prevention and proactiveness (Wallace, Powell&Holyoak,2015).

Safety risks prevention is essential in business management (Rik-hardsson and Impgaard, 2004).For an organization to achieve excellence in prevention and safety it must integrate all the actions and decisions. Prevention must be seen as more organizational and strategic rather than material. Systems should be implemented to manage risks and foster participationand commitment of the employees through the support of top management (Fernandez-Murizet, 2007).This requires a profound change in firms mentality, behavior and culture leading to a true safety.

### **2.3.2Innovation and Firm Performance**

Innovation is the implementation of new service, new organization structure, improvedproduct, newprocesses, and new marketing practices. Consumer demand trends for food product has led to innovation in the food sector with emphasize being on quality, safety, reasonable cost, convenience, quality and environmental soundness (Barbosa-Cánovas and Gould 2000).Food processing firms have been forced to naturally respond to such tends by increasing their research efforts as part of their response gain and seek competitive advantage over other companies. They are exploiting new technology and innovations as part of their short and long-term strategy.

(Traill and Meulenberg 2002, Lagnevik 2003). Environmental regulations and standards have become significant drivers of innovations in food industry (Jongen and Meulenberg 2005).

Internationally, countries like China food processing firms have undergone critical stage of structural adjustments to address challenges facing food industry (OECD 2000). This has been necessitated by continuous innovation to fit market demands and reach many demographic simultaneously (Traill and Meulenberg 2000). Food processing firms need to increasingly adjust in order to diversify consumer demands and equally become internationally competitive. They need to embrace process and products innovation to improve competitiveness (OECD 2000).

According to (Giannikos 2005), firms first focus on product innovation in new markets or product variants and then once opportunities are exhausted they switch their attention to finding more efficient means of production. Mantovani (2005) proposes that process and product innovations are complementary and firms should always prefer a simultaneous adoption. Dissemination of information within an organization and internal diffusion of knowledge are equally important in fostering organization learning and innovation (Bogner and Barr 2000, Martin and Grbac 2003). Almeida (2003) argue that specific cross-functional mechanisms need to be established to enhance the internal communication critical to fostering innovation.

Corporate culture is vital for innovation therefore top management should evaluate the organizational culture (Omta and Folstar 2005). Culture is a set of shared values, beliefs, assumptions and behavior that are developed by a corporation to cope with internal and external aspects of aspects of survival and success Oden(2000). Culture is considered as a contributor of corporate dynamic capability (Galunic and Eisenhardt 2001). It contributes to the development and creation of strategic innovation (Leifer, 2001).

According to Markides (2002), innovation focuses on managing innovation in a strategic sense as a part of broader organizational strategy. Firms have to attune the internal resources, capabilities competences to external business opportunities and technology challenges Omta and Folstar (2005).It is an arduous task to run and build an organization that consistently generates innovation Tushman and Anderson (2004).

Organizational policies, characteristics and processes used by companies to realize and test their efforts for creative innovative ideas in regard to products ,markets and processes (Pinchot, 1985; Stevenson and Jarillo, 1990; Hitt, et al., 2001).According to (Kuratko and Hodgetts, 2000), in the 80's global competition became particularly tough which forced companies to refocus on their business strategies especially innovation. Due to high and tough global competition, both companies and individuals have begun to evaluate and apply their entrepreneurial abilities and innovation strategies with the aim of gaining competitive advantage (Drucker, 2000; Hult et al., 2003).

Metcalfe (1998) stated that when a company slows down to newness and innovation, its economic structure settles down in an inactive way with little or no growth. Which clearly shows that innovation has significant role in determining performance and competition.

Innovation is designed according to local industry demands(Aitmanbetova&Tagaibekova, 2014). This is mostly experienced in food sector where manufacturing firms have a wide range spread of sectoral classifications. Fuller(2014) states that, new product development is likely to be engineered by firms trying to achieve large market share and retaining the existing ones. Consumers tastes and preferences will also drive innovation of goods and services (Grunert, 2017). Innovation leads to improved processes and this motivates the firms through reduction of costs, expansion of their production and improved coordination and flexibility.

Several scholars have addressed the significance of innovation to performance of food processing firms. Zahra (2013) found that there is significant relationship between financial performance and innovation after sampling manufacturing firms. Jeremia (2017) found that when a company comes up with a new product it gives command in terms of price which eventually leads to profits through premiums. Kleinschmidt and Cooper (2011), in their finding, pointed out that firm's profit has a significant relationship with innovation.

Investigations done by McAdam and Keogh (2004) on relationship between innovation and firm performance revealed that, firm's inclination to innovations was of great vital in order to achieve high competitive advantage. Firms that have embraced innovation are less susceptible to cyclical environmental changes and pressure. Damanpour and Evans (2000) stated that adoption of a balanced rate in technical and administrative is effective in aiding firms to improve and preserve their performance level. Innovations influence each other and therefore should be implemented in conjunction since there is no specific innovation type that has more or less impact on corporate performance (Walker, 2004).

In order to survive in a competitive environment firms, need to develop innovative products superior from their competitors (Booker, Drake & Heitger, 2017). Organization performance has tremendously improved through innovation. According to Cho and Pucik (2015), product innovation can influence changes in the market, organization operations and technology adoption. Financial performance has been enhanced through product innovation and has enabled organizations in value addition (Maria, 2014). Alomari and Azzam (2017) found that micro factors influenced performance of the listed Jordanian insurance companies.

Particular product improvement is positively associated with firm growth which clearly shows that product and process work simultaneously Wolff and Pett (2004).

### **2.3.3 Employee Competence and Firm Performance**

Competency is considered as an individual's capability or ability Boyatzis (2008). Competency is referred to as a set of characteristics of skills, knowledge, intellect and view of one's interest to carry out their duties effectively and efficiently. According to McClelland (1998) competency is defined as basic personal characteristics that are determining factor for acting successfully in a job or situation. It is important for an organization to ensure employees have the right skills and in line with objectives, goals and values. Antwi (2015) states that, competent employees in high performing organization possess the necessary skills, ability and competence to express ideas.

Wright & Geroy (2001) states that, employee competences can be improved through effective training programs which eventually will enhance employee overall performance by gaining skills, knowledge and attitude. Due to globalization firms are facing huge competition, changes in business environments as well as political challenges, this has therefore led to increased intensity in employee training as one of the strategies to cope with the changes and raise the level of performance (Pucik & Barsoux, 2012). According to Houser (2006), employees are the good source to gaining competitive edge because they carry intellectual property. Knowledge growth has been on rise in the last decade, which has been necessitated by combinations of factors of production, improvement in technology and increased efforts to develop human resource.

Employee trainings have proven to be valuable source of gaining competitive advantage and competences (Houser, 2006). According to Elnaga and Imran (2013), organization needs to focus on planning and training development of its employees since it is important for employees to grow

and understand organization's mission and vision. Employee performance is characterized as a result or commitment to achieve organizational objectives (Herbert, John & Lee, 2000). In an effective organization, employee performance is key. Therefore, the organization is required to equip the employees with their right skills to achieve effectiveness and efficiency. Organizations subsequently generate a tremendous effect on the efficiency of the organization. To achieve excellent performance, employees should be provided with the skills in job-related areas to overcome any deficiencies (Elnaga and Imran, 2013).

This has emphasized the need of organizations to come up with training and development courses for employees since they are crucial capital resources in an organization. For a sustainable and efficient performance, it is always noble to engage employees in strategic developments of the company. This therefore calls for managers ensuring that there are sufficient, competent employees in supply who are technically and socially good (Afshan, Sobia, Kamran & Nasir, 2012). According to Boyatzis (2012), competencies relate to the underlying characteristics of an individual related to effective job performance. Albanese (2019) describes competence as characteristics that contribute to job performance and leadership. Draganidis and Mentzas (2016) describe competencies as explicit knowledge, skills related to behavior and tacit knowledge, which demonstrates the ability to perform tasks effectively.

Schuler and Werner (2012) stated that competency is a measurable pattern of characteristics that an employee needs to portray in order to perform certain tasks or accomplish certain roles successfully. Employee performance can be measured by comparing achievement against the targeted performance goals set and standards laid down by the organization (Ahuja, 2006). This is why organizations need to equip their employees with the right skills through training to eliminate skills deficit and reduce performance gaps (Swart, 2005). Performance is positively

influenced by training through development of knowledge skills, ability and attitudes which are summarized as competency. Nassazi (2013).

Organizations performance should reflect productivity, effectiveness, employee morale and profitability. According to Chan and Lynn (2012), organizational performance is significantly recognized through employee performance.

For a company to be organized effectively, it must think on how to hire, train and reward their employees to encourage competitiveness. Millar (2017), came up with of management of talent in organization. The framework consisted of recruiting, career development, planning, succession learning and performance. Companies have developed strategies to raise employee performance, motivate them and develop them through career progression in various human resource applications (Gungor, 2011). Skills and knowledge improvement leads to superior performance that affect creativity, high quality of service delivery and operational effectiveness. Blok (2009) states that competencies are seen as the ultimate mediator between training interventions and performance of the job.

Resource based view sees employees as the assets of the company. It encourages organization to come up with strategies to encouraging, evaluating rewarding, measuring and developing employees' performance at work. This has led to rise of management performance and appraisal systems to help organizations to reach their productive goals (Stevens & Joyce, 2010). According to Cunneen (2016), coaching leads to skill and knowledge development which leads to high performance and finally the organization is able to achieve its goals and objectives.

### **2.3.4 Technology Adoption and Firm Performance**

Information Technology and Communication Technology (ICT) has many benefits in a firm and economy at large which include but not limited to effectiveness, innovation, competitiveness and efficiency (Sardrzadehrafiei et al, 2013). ICT has significant impact on many industries. ICT contributes substantially toward economic development of any country (Kyobe, 2011). ICT has significant impact on firms in terms of learning, working and communication. The right choice of Information technology is determined by the product and if an organization chooses one that leads to value addition in the organization (Consoli, 2012). ICT can be used for both production processes and non-production processes (Tiago et al, 2017). ICT refer to informatics, Internet and telecommunications. Since we are immersed in an information society, ICT use is increasingly common and unavoidable (Castells, 2001).

ICT is not only used for the shop floor processes but also for non-production processes like marketing, product design and after sales support (Lal 2004). Adoption of ICT reduces coordination costs and leads to efficient markets. Countries that have adopted ICT for example like Korea, which has a widespread ICT strategy they have experienced economic growth (Hanna, 2003; Chao, 2000). European on the other hand has experienced low performance in respect to food production due to poor marketing performance and lack of insufficient R&D in both ICT production and application Level Group (2004).

Advancement in ICT has a major influence on globalization and rapid revolutions in information and knowledge base (Kaynak et al., 2005; Pavic et al., 2007). ICT adoption requires organizations to have a business environment encouraging open competition, security, trust, standardization and interoperability and the availability of finance (UNCTAD 2004). With use of ICT, businesses can interact more efficiently and become digitally networked (Buhalis, 2003). Spanos (2002) states that, ICT eliminates time constraints and distance in accessing required information therefore improving coordination of organization activities.

Organizations invest in ICT in order to become competitive and profitable, therefore ICT should be considered as an important factor (Kossa & Piget, 2014). Technology therefore can be considered as vehicle for innovation since it encourages firms to come up with services and products (Atkinson, Waterhouse & Wells, 2017). Chiou (2010) states that apart from competitive advantage in the high technology and skills uniqueness capabilities, companies are advised to combine dynamic capabilities and collaborative networks to sustainable advantages.

Several scholars have studied the relationship between adoption of technology and performance of a firm. Kossai and Piget (2014) found that technology leads to better firms' performance through examination of Tunisian electrical and electronic industry. Tarute and Gatautis (2014) found that ICT improves the overall operational and financial performance of the firm. In order to integrate and coordinate business functions smoothly. Sadrzadehrafiei (2013) noted that of Enterprise Resource Planning (ERP) is necessary for an organization. It helps in just in time production which reduces costs related to production, quality and communication.

ICT affects firm performance not only in terms of productivity, profitability, market share and value and also in intermediate measures such as process efficiency, service quality, cost savings, flexibility, customer satisfaction (Bartelsman and Doms, 2000). Organizations have been enabled to make major changes by adopting ICT (Falk, 2005). ICT has drastically modified information, communication and sales (Lapierre and Denier, 2005; Wang et al., 2006). Thus enabling firms to achieve strong competitive advantage, in both production and other areas.

ICT adoption is largely influenced by the environment within which the firm performs and its activities. (Zhu, 2003). These are termed as institutional factors or external pressure (Soliman and Janz, 2004). They are competitive pressure, industry sector or international pressure (Lee, 2004).

Firms operate in different industries and therefore these different environments influence ICT adoption. Therefore different industries have to deal with different types of business environmental dynamics which eventually affect ICT adoption (Hollenstein, 2004). Data processing requirements for example differ across different sectors (Goode and Stevens, 2000). Industry variables such as heterogeneity and uncertainty also affect the business environments.

Firms that operate internationally are affected by environment factors especially in decisions to explore new markets and products (Miles and Snow,2000).These factors induces the firm to search for new opportunities and use of new technology(Teo and Pian, 2003).Internationally firms that have penetrated in different countries have invested heavily on technology (Kumar and Saqib,2001).This is because technology has great impact on innovation on products and markets(Braga andWillmore, 2000).Like for example website development has been adopted by international firms greatly with the aim of raising the firms visibility and attracting new customers. Which is relevant for those customers who are far away as in the case of export firms (Teo and Pian, 2003).Adoption of technology reduces the impact of geographical locations (Premkumarand Roberts, 2001).

External network to the organization plays a substantial role in the adoption process, since networking heightens awareness of innovation and increases likelihood of adoption of ICT (Abrahamson and Rosenkopf, 1997).Multinational ownership also increases the need for internal integration in broader way throughICT adoption (Galliano et al., 2001).They coordinate their activities at international level through adoption of ICT to eliminate competition challenges (Akmanligil and Palvia, 2004).According toSantangelo (2001), intensive use of ICT impacts on firm internatiolization.

It is also necessary to remember that membership of an international group makes firms more open to external factors, which implies interaction in more specialized roles, through, say, attendance at meetings, and increased opportunity for learning and adopting innovations (Lai and Guynes, 2001). Nor should it be forgotten that multinational firms have more financial resources available for investment purposes.

The pressure to conform that comes from parent organizations drives organizational action and may influence subsidiaries in their decision to adopt or otherwise (Westphal 2000). Plants using more advanced technologies require high skilled workers (Doms et al.,2001).High skilled workers make ICT investment and adoption easier(Arvanitis, 2005).

In order to become competitive and survive for a long period, firms' interrelationship with the external environmental. Food and beverage firms should embrace ICT to improve communication both internally and externally, increase speed in information accessibility, simplify processes, improve business efficiency and reduce cost of operation. According to Domenech et al (2014), technology adoption is a gate pass to product value addition through innovation, which enhances operations and maintains better internal relations.

Food industries can adopt electronic data interchange (EDI) which is suitable voluminous production and increased product variety. Hill and Scudder (2012) further tested the use of EDI in supply chain coordination in US and found that it improves efficiency. Akkerman (2018) developed a decision support tool that helps in loss reduction in food processing industry and found that the tool helps to reduce plan related losses by nearly 20%. It improves interaction between processing, packaging and intermediate storage.

## **2.4 Research Gap**

Most of the literature reviewed relates to studies outside Kenya. There is inadequate research on the impact of micro factors in food processing firms in Kenya. Most of the researches concerns micro factors of other countries. Few have studied on macro factors in Kenya. This research is, therefore conducted in order to fill the gap. The research focuses on the impact of micro factors on the performance of food processing firms in Kenya.

## **2.5 Conceptual Framework**

This is the framework is a written product that explains either graphically or in narrative the main things in study (Robson,2011). The framework helps researchers to define concept, map the research terrain or conceptual scope, systematize relations among concepts and identifying gaps in literature (Creswell,2013).

Independent variable

Dependent variable

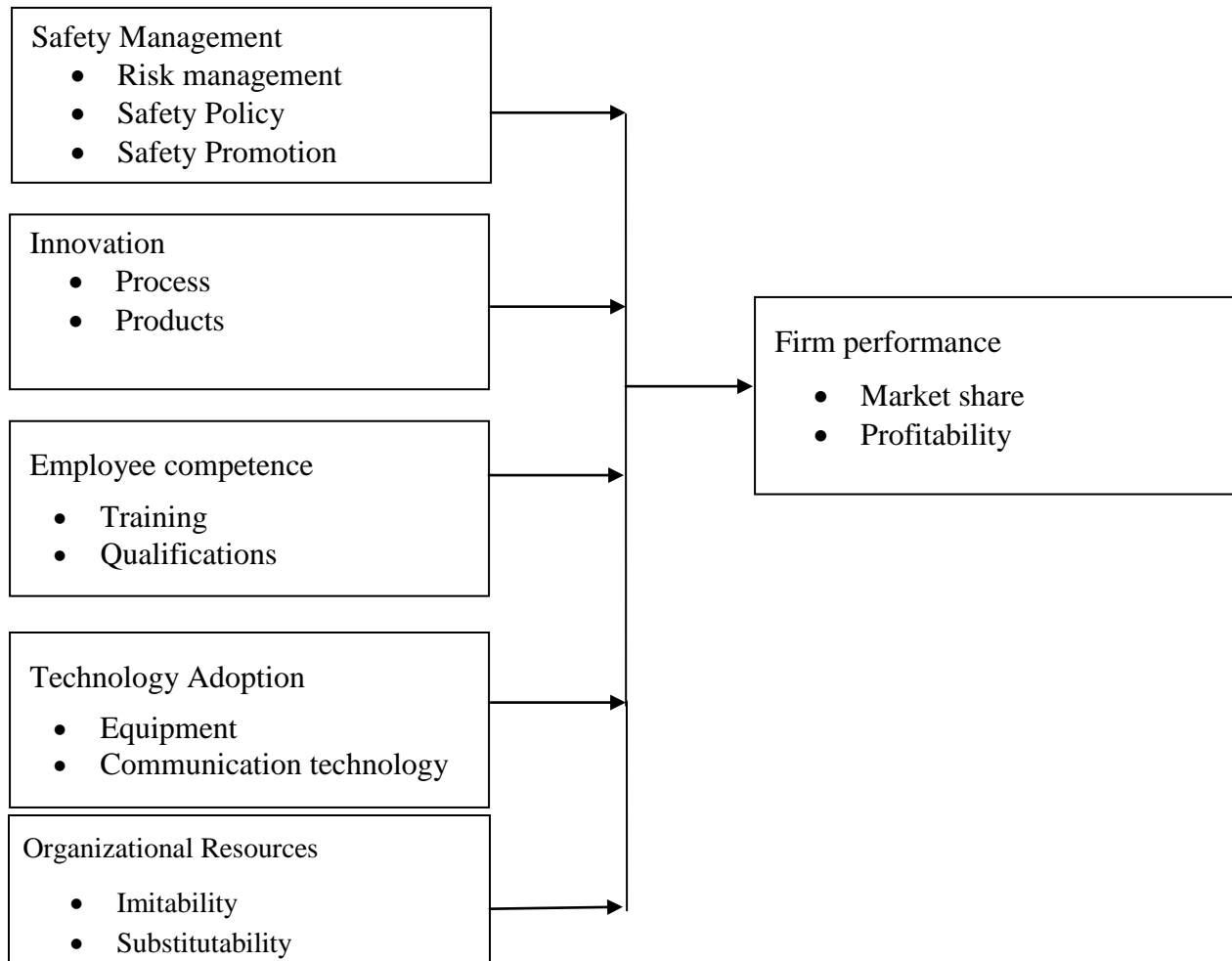


Figure 2.1: Conceptual Framework

## 2.6 Operationalization of variables

Table 2.1: Operationalization of variables

Variable Type	Variable	Indicators	Scale	Collection tool	Type of Analysis
Independent	Safety Management	<ul style="list-style-type: none"> <li>• Safety Training</li> <li>• Safety culture</li> </ul>	Nominal	Questionnaire	Descriptive
	Innovation	<ul style="list-style-type: none"> <li>• Training</li> <li>• New products</li> </ul>	Nominal	Questionnaire	Descriptive
	Employee competence	<ul style="list-style-type: none"> <li>• Time management</li> <li>• Creativity</li> <li>• Consistency</li> </ul>	Nominal	Questionnaire	Descriptive
	Technology Adoption	<ul style="list-style-type: none"> <li>• Equipment</li> <li>• Communication technology</li> </ul>	Nominal	Questionnaire	Descriptive
	Organizational Resources	<ul style="list-style-type: none"> <li>• Substitutability</li> <li>• Imitability</li> </ul>	Nominal	Questionnaire	Descriptive
Dependent	Firm performance	<ul style="list-style-type: none"> <li>• Market share</li> <li>• Profitability</li> </ul>	Nominal	Data collection sheet	Descriptive

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the methodology that will be used to collect and analyze data. This chapter covers the research design, data collection procedures as well as validity and reliability respectively. The last section of the chapter presents a description of the data analysis and presentation method.

#### **3.2 Research Design**

It illustrates the research design plan and strategy of how it will be carried out (Cooper & Schidler, 2011). In this research, descriptive research design will be adopted. The design involves gathering data that describes an event. Data is then organized, tabulated, and depicted (Best & Khan, 2010). Descriptive research investigates data collected and analyzes it in order to describe specific phenomena in its current phenomena.

#### **3.3 Target Population**

Gupta (2012), states that target population is a specific population where the researcher is interested in drawing information and making conclusions. The study will target processing firms in Kenya with their headquarters in Nairobi County. According to KAM (2020) there are 44 food processing firms in Kenya with headquarters in Nairobi County (Appendix I). Most food manufacturing processes are in Nairobi therefore making the county convenient for research. Food processing firms will be chosen because of their importance within not only Kenya but Africa and the entire world. The respondents will be employees of the processing firms chosen. The list of food processing firms in Nairobi county will form the sampling frame.

### **3.4 Sample and Sampling**

Procedure a researcher uses to bring together people, things or places of study is described as sampling. (Best and Khan, 2010). The study will adopt a census survey where all the 44 food processing firms will be involved in the study. Census is a complete enumeration survey method where each item is selected in the universe for data collection. Universe constitutes particular place, specific locality or group of people which is the complete set of items and which are of interest in any particular situation.

### **3.5 Data Collection Instrument**

Data collection refers to as gathering information to serve as a prove (Kombo & Tromp, 2012). This study will use data that will be primarily collected by use of questionnaires. Likert scale will be used. The nature of questions will be close and open ended. Upagadae and Shende (2012) defined a questionnaire as an instrument to collect data that allows a measurement for or against a particular viewpoint. They emphasize that a questionnaire has the ability to collect a large amount of information in a reasonable time. They are easy to administer and give respondents sufficient time to arrive at a well thought.

The research will use data collected using a structured questionnaire. Data will be collected from both primary and secondary sources. Choice of questionnaire will be informed by use possibility of collecting large quantities of data and at low cost (Hakim, 2012). The questionnaires will be administered by researcher by handing them over to the respondent who will fill them and return them to researcher at a later date.

### **3.6 Pilot Testing**

A pilot study is a small study done prior to the main study to check on the reliability of the research instrument (Hakim, 2012). Two food processing firms will be piloted for the study. A sample size of 10-20% is a reasonable number to consider out of the sample population (Baker, 2014). The pilot study will be done through test retest method where the questionnaires will be administered and re-administered after two weeks.

Validity of the research instrument will be tested. Validity explains the soundness of the research instruments and how they match the phenomenon (Orodho, 2011). So as to ascertain validity, the instruments will be reviewed by the supervisors and any changes will be recommended. The necessary adjustments and revision will be done to the research instrument to ensure validity of the research instruments.

Reliability shows the consistency and accuracy of total representation under study (Wilson, 2010). Cronbach alpha value will be calculated using SPSS to establish the reliability of the questionnaires. When the value of  $r$  is equal to  $+1.00$ , the two sets agree to each other and is  $-1.00$  when they are in perfect disagreement. A correlation co-efficient ( $r$ ), of about  $0.75$  is considered to be high enough to determine the reliability of the research instruments (Orodho, 2011).

### **3.7 Data Analysis and Processing**

Before analyzing data, checks and data cleaning will exhaustively be carried out. The study will use descriptive statistics in form of frequency, means, standard deviation and percentages. Descriptive allows for data presentation in a simpler and comprehensive manner. Cooper

and Schindler (2011) analyzed two reasons for percentages. Correlation analysis and multiple regression will be

will be done to establish the relationship between the variables. The data will be analyzed using SPSS v25. The regression model will be used:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon,$$

Where:

Y= performance of food processing firms

$\beta_0$  = Regression

$\beta_1$  to  $\beta_3$  = The regression coefficient

$X_1$ =Safety management systems

$X_2$ = Employee competence

$X_3$ =Innovation

$X_4$ =Technology adoption

$\varepsilon$  = Error term

Data and the results findings will be presented in graphs and chat.

### **3.8 Diagnostic Tests**

Diagnistic tests will be done. This will involve multicollinearity and normality test.

#### **3.8.1 Normality**

This is the commonly made assumptions in development and use of statistical procedures (Green, 2012). Examples of these procedures are tests of regression coefficients in a regression in regression analysis. Paul and Zhang (2010) stated that normality test determines

whether data is set well –modeled by a normal test. In this study test will be done using kurtosis/Skewness.

### **3.8.2 Multicollinearity**

Multi collinearity is shows how some predictor variables in the model are correlated with other variables (Martz, 2013). The test of multicollinearity will be done by use of variance inflation factor which gives an index of how the variance of estimated regression coefficient is increased.

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## APPENDICES

### Appendix I: List of food processing firms in Nairobi county

1. Agri Masters Posho
2. Alpha Grain Millers
3. B.D Engineers LTD
4. Baraka Flour Mills
5. C Dorman Ltd
6. Farmer's Choice Ltd
7. Flamingo Grain Millers Ltd
8. Golden Africa (K) Ltd
9. Golden Harvest Mills
10. Green Garden Deli
11. Greenforest Foods Ltd
12. Highland Creamers & Food Ltd
13. Ingredion Holding LLC
14. Jamatech Engineering Works
15. Joeliz Bone Meal Ltd
16. Kabansora Millers Ltd
17. Kapa Oil Refineries Ltd
18. Kenafric Industries Ltd
19. Kenchic Ltd
20. Kibos Sugar & Allied Industries Ltd
21. Manji Food Industries Ltd
22. Mibisco Limited
23. Mumias Sugar Co. Ltd
24. Nairobi Flour Millers Ltd
25. New Italycor Ltd
26. Osho Grain Millers Ltd
27. Patco Industries Ltd
28. Pembe Flour Mills Ltd

29. Premier Flour Mills Ltd
30. Propack Kenya Ltd
31. Prosoya Kenya Limited
32. Pwani Oil Products
33. PZ Cussons East Africa Ltd
34. R H Devani Ltd
35. Rafiki Millers Ltd
36. Soy Afric Ltd
37. The Wrigley Co (East Africa) Ltd
38. Top Food (EA) Ltd
39. Tri Clover Industries (K) Ltd
40. Uchumi Grain Millers EA Ltd
41. Unga Limited
42. Unilever Kenya Ltd
43. United Millers Ltd
44. Weetabix East Africa Ltd

Source: Kenya Association of Manufacturers (2020)

**Appendix II: Questionnaire**

**SECTION A: BIODATA**

1. Name of the firm.....

2. What is your Job designation? .....

3. For how long has your firm operated in Kenya?

Less than 5 years ( )

5-10 years ( )

Over 10 years ( )

4. How many employees does your company have?

Less than 100 ( )

100-500 ( )

500 and above ( )

5. Which type of ownership is your firm?

Private( )

Public( )

Cooperative ( )

Other (specify).....

6. Please indicate if your firm is

Locally owned ( )

Foreign own ( )

**Section B: Safety Management**

7. A) On the scale provided below, indicate to what extent does the following food safety practices affect organizational performance.

	To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent
Training					
Compliance with standards					
Periodic employee testing					
Machinery operations					
Firm inspections					
Waste management					
Storage areas					
Water treatment areas					
Drainage					
Food safety policies					
Food handling equipment and tools					

B) To what extent do you agree on the following statements relating to safety management and performance of your firm (1 is strongly disagree and 5 is strongly agree)

	1	2	3	4	5
<b>Safety management</b>					
What safety measures has the company put in place					
The company has safety management policies in place					
The company reviews its policies frequently to align them with national and international safety standards					
The company incorporates safety measures with the organization objectives					
These policies are regularly communicated to all employees preferably through trainings (for example ISO)					
The safety measures are well coordinated within and outside organization					

There is commitment of top management in enhancing safety in the organization.					
The organization has committed resources in safety management					
The firm has continuous improvement safety management systems					
The firm has competent human resource who frequently analyses areas of high risk in regard to safety management.					
The firm has the right equipment and tools in place					
Quality management has enabled my firm reduce cost					

**Section C: Innovation**

8. On the scale below, kindly indicate whether your organization has created the right environment for innovation and to what extent has innovation been supported by your.

	To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent
Our company has good and simulating environment for process and product innovation					
Our company has well formulated and measurable objectives, which encourage innovation.					
We have a budget for innovation					
There are good incentives or rewards for innovative employees					
Our firm has technical department set for innovation					
Our organization pursues production innovation					

The technical department has employees with suitable qualifications for process and product innovation					
Our technical department has good knowledge of conditions in the industry and its external business environment					
Our technical department is good at generating new ideas and formulating interesting new process and product innovation					
Good and well-functioning networks are available for research and technical innovation					
Ability to identify and define key surrounding issues relevant to innovation (for example price and market conditions)					

**Section D: Employee Competence**

9. On the scale below, how can you rate your firm concerning employee competence in your organization. Does your organization have the following measures in place.

	To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent
The firm has the competent employees in various positions					
The company has the employee code of conduct in place					
The firm has quality orientation process					

The company has frequent employee trainings					
The trainings are tailored according to individual needs					
The employees are well motivated					
There are clear job descriptions for employees					
Are the employees innovative					
The staff are appraised to make sure they are delivering or not					
Are tasks accomplished on time					
The company allows employees to participate in decision making process					
The company has clearly defined work processes to its employees					
Are the employees productive in their specific areas of work					

### Section E: Technology Adoption

10. On the scale below, to what extent has technology affected the performance of your organization. Has the company committed itself fully to issues related to technology?

	To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent
My firm has adopted modern technology					
The company has ICT policy in place					
The policy is aligned with the companies objectives					
The company has committed resources in support of ICT objectives					
The company has the right human resource					

capacity					
They are aware of the organizational needs					
The company sensitizes the employees on the need for technology for example through trainings					
The company has adopted the right technology					
The technology in place has led to increased markets					
Through technology the company has been able to attract international markets					

**Section E: Organizational resources**

11. On the scale below, kindly indicate whether your organizational has the right resources to enable it remain competitive and to what extent have they been utilized.

	To a very small extent	To a small extent	To a moderate extent	To a large extent	To a very large extent
Firm has enough resources					
The firm has directed its resources to the intended use for example according to organization budget					
The firm has enough asset base capacity to support operations					
The organizational has the right structure in place					
The organization has adequate machinery					
The organization has competent employees					
The organizational systems and processes are effective					

Does the organizational structure give clear direction of the company operations					
The company have its own source of raw materials					
Does the firm has the right resource control measures in place					