DYNAMIC CAPABILITIES AND PERFORMANCE OF SELECTED MANUFACTURING FIRMS IN KENYA

GABRIEL KITENGA, MBA (USIU-A), BCOM (UON).

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DECLARATION

I declare that this thesis is my original work and has never been presented to any academic institution for a degree or any other award.

Signature ...…….…. Date ……

Gabriel Kitenga
Department of Business Administration
Kenyatta University

SUPERVISORS

We confirm that the work presented in this thesis was carried out by the candidate under our supervision.

Signature ….……. Date ……

James M. Kilika, PhD.
Department of Business Administration
School of Business
Kenyatta University

Signature ……. Date ……....

Anne W. Muchemi, PhD.
Department of Business Administration
School of Business
Kenyatta University

DEDICATION

This work is dedicated to my family members: Margret, Patience, Marion, Vincent, and Viki for their encouragement, support, and understanding. Having you in my corner made me feel that I was doing the right thing.

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OPERATIONAL DEFINITION OF TERMS

Adaptive Capability	Firm's ability to monitor its environment and allocate resources to timely respond to changing conditions so as to sustain performance.
Alliancing Capability	The existence of unique knowledge, skills, and procedures to form, manage and transfer knowledge attained through participation in alliances and to evaluate collaboration with peers.
Dynamic Capabilities	The capacity to sense and shape opportunities and threats, to seize opportunities, and to maintain competitiveness through enhancing, combining, protecting, and when necessary, reconfiguring the firm's intangible and tangible asset
Financial Performance	The extent to which a firm meets the monetary expectations of its shareholders.
Firm Competence	The combination of multiple resources to execute a set of activities which the firm performs exceptionally well and gives it competitive advantage over its peers.
Firm Performance	The degree to which a firm meets the interests of its stakeholders.
Firm Size	The present value of the total resources and capabilities owned by a firm for its own productive purposes.

Food Manufacturing Firms	Enterprises involved in transformation of raw agricultural products into food for consumption by humans, or of one form of food into other forms.
Foundational competence	The skill set, knowledge, and attributes such as oral communication, initiative, integrity, and cultural sensitivity that are necessary for broad job functions
Functional competence	The skill sets that enables firms to fulfil its specific job tasks, or responsibilities.
Managerial Capabilities	Abilities of managers to integrate, reconfigure firm resources and build competences.
Managerial Cognition	The mental models that inform managers' decisions.
Manufacturing Firms	Firms that use raw material or semi processed goods to make products for direct consumption or for use as inputs by other firms
Marketing Capability	The collective knowledge, skills, and resources that enable a firm to meet its market-related needs.
Operational Performance	Extend to which an organization is efficient in producing the goods and services that customers really want at the lowest cost and effort as possible
Technological competence	The abilities, embedded in assets that enable a firm to design and manufacture products

ABBREVIATIONS

AC	Alliancing Capability
ANOVA	Analysis of Variance
BSC	Balanced Score Card
CBT	Competence Based Theory of the Firm
CEO	Chief Executive Officer
DC	Dynamic Capabilities
EPS	Earnings per Share
ESEM	Explanatory Structural Equation Modelling
EUT	Upper Echelons Theory
FC	Firm Competence
FS	Firm Size
GC	Managerial Capability
GOK	Government of Kenya
GDP	Gross Domestic Product
HR	Human Resources
HPWS	High Performance Work Systems
I CT	Information and Communication Technology
KAM	Kenya Association of Manufacturers
KIPPRA	Kenya Institute for Public Policy Research and Analysis
KMO	Kaiser-Meyer-Olkin
KNBS	Kenya National Bureau of Statistics
KS	Kolmogorov-Smirnov
LC	Alliancing Capability
MES	Minimum Efficient Scale
NACOSTI	National Commission for Science, Technology, and Innovation
PLS	Partial Least Squares
PLS-SEM	Partial Least Squares Structural Equation Modelling

R&D	Research and Development
RBV	Resource Based View
ROA	Return on Assets
ROI	Return on Investment
SEM	Structural Equation Modelling Technique
SME	Small and Medium Enterprise
SUR	Seemingly Unrelated Regression technique
SW	Shapiro-Wilk
TBL	Triple Bottom Line
TMT	Top Management Team
UN	United Nations
VIF	Variance Inflation Factor
VRIN	Valuable, Rare, imperfectly Imitable and Non-substitutable
YCELP	Yale Center for Environmental Law and Policy

ABSTRACT

Performance of food manufacturing firms has been on a declining trend leading to the relocation of some firms to other countries. As a result, the country has been experiencing frequent food deficits. The search for how performance can be enhanced has led scholars and managers to consider dynamic capability to be at the heart of firm strategy. This study, therefore, sought to examine how dynamic capabilities influence the performance of selected manufacturing firms in Kenya. The specific objectives were to assess the effect of adaptive capabilities on performance of food manufacturing firms in Kenya, to determine the effect of marketing capabilities on performance of food manufacturing firms in Kenya, to establish the effect of alliancing capabilities on performance of food manufacturing firms in Kenya, to examine the effect of managerial capabilities on performance of food manufacturing firms in Kenya, to establish the moderating effect of firm size on the relationship between dynamic capabilities and performance of food manufacturing firms in Kenya and to assess the mediating effect of firm competence on the relationship between dynamic capabilities and performance of food manufacturing firms in Kenya. Adaptive capability, marketing capability, alliancing capability and managerial capability were the dependent variables of the study. Firm competence and firm size were the mediating and moderating variables, respectively. The study was grounded on the dynamic capability theory supported by the competence-based theory, the upper echelons theory, the resource-based theory, the stakeholder theory and the BSC framework. The study was founded on a positivist research philosophy and utilized a descriptive and explanatory research design. The population consisted of 70 food manufacturing listed in the Kenya Association of Manufacturer's directory. Primary data was collected from 190 respondents using self-administered semi-structured questionnaires selected using a proportional stratified sampling technique. Descriptive statistics were computed to describe the characteristics of the study variables and multiple regression analysis was conducted to determine the nature and magnitude of the relationships between the independent and dependent variables. The findings show that there is a significant direct and positive effect of adaptive capabilities, marketing capabilities, alliancing capabilities and managerial capabilities on performance of food manufacturing firms in Kenya. The findings also show that firm competence partially mediates the relationship between dynamic capabilities and performance of food manufacturing firms in Kenya. Firm size was found not to have a moderating effect on the relationship between dynamic capabilities and performance. The findings supported the theoretical foundation of the dynamic capabilities theory that firm performance and sustainable competitive advantage depends on its ability to react rapidly and flexibly to changing market environments. The study recommends that the management of food manufacturing firms should set aside budgets to build dynamic capabilities. Food manufacturing firms should also build alliances with producers of raw materials to stabilize the supply of inputs and customers to stabilize the market for processed food. They should also cooperate with peers to solve industry problems and engage government agencies for a favorable regulatory framework. The firms should also build technological competences through sponsoring employees for technical training and invest in the development of capabilities that increase their ability to reconfigure themselves to cope and thrive even during times of unexpected adversities.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Concerns over firm performance are often motivated by the perception of threats to the durability of the firm. According to Santos and Brito (2012), these concerns seem to be justified by the ever-growing competition for market and resources. Globally, firms are looking for strategies to enable them to perform to thrive in dynamic global competition (Pisano, 2016). Because of poor performance in the past, there is increasing pressure for food manufacturing firms in Kenya to perform better to meet the growing demand for food (KPPRA, 2017). This study chose the performance of food manufacturing firms in Kenya as the dependent variable for this study because it is a critical driver to the achievement of UN Sustainable Goal 2 (to end hunger and all forms of malnutrition by 2030) and mitigating food security in Kenya. Furthermore, increasing the performance of existing Food Manufacturing firms may encourage added investments in food manufacturing.

The search for how to respond to environmental turbulence and increase firm performance has led scholars and strategic managers to view dynamic capabilities as being central to strategy and firm performance (Teece, 2017). Indeed, winners in the global marketplace have been firms demonstrating timely responsiveness, rapid and flexible product innovation, along with the management capability to timeously coordinate and redeploy internal and external competencies effectively (Teece, Pisano & Shuen, 2013). This study chose dynamic capabilities as the independent variable

because they were seen as key drivers of performance as they enable firms to adapt to environmental dynamism to meet demand continuously.

Competence is crucial to firm performance because it is a mechanism that firms use to leverage, combine, and reconfigure resources. Competence is crucial to a firm because it is one of the mechanisms by which firms use to leverage, recombine, and reconfigure resources (Nimish & Cader, (2016). They include integrated skills that combine specific functional and technological skills into bigger skill sets. Competences provide the basis for competitive capacities and sustainable performance of firms (Teece (2010). Due to the acceleration of environmental changes, firms must exploit their existing competencies for short term commercial benefits and explore new competencies for long term performance (Wang, Senaratne & Rafiq, 2015). This study identified firm competences as the mediating variable because they are presumed to influence the performance of food manufacturing firms through their interaction with other corporate phenomena to support organizational success.

The size of a firm is a primary factor in determining firm performance in terms of profitability and market value (Hill & Jones, 2010). Dogan (2013) argues that there is a positive relationship between firm size and performance. Similarly, De and Nagaraj (2014) argue that firms seek to increase their performance to make profits for their owners, and as long as they can make profits and grow, the owners continue providing resources, and the firms survive and grow. Building on the preceding, the study held the perspective that the larger the food manufacturing firm, the more it can build its

stock of dynamic capabilities and competences and hence its performance. The study, therefore, chose firm size as a moderator of the relationship between dynamic capabilities and performance because it was seen as having an indirect effect on performance.

1.1.1 Firm Performance

Despite being common in literature, the concept of firm performance is difficult to define because of its many meanings. Mule and Mukras (2013) observe that firm performance does not have a universally accepted definition, although it is a widely used variable in research. Taouab and Issor (2019) conceptualized firm performance in terms of the extent to which firms achieve their goals. Mirza and Javed, (2013) defined firm performance as the accomplishment of firm goals as well as the efficiency and effectiveness in the utilization of resources through core strategies. The concept of firm performance is based on the idea that a firm is an interaction of productive resources to create value. Therefore, as long as the firm creates a value that meets or exceeds the value that its providers expect, resources will continue to be made available and the firm will continue to survive and prosper (Gavrea, Ilies & Stegerean, 2011). Based on the various definitions, this study followed the approach taken in the stakeholder theory and adopted the definition that performance is the extent to which a firm meets the financial and nonfinancial expectations of all its stakeholders.

Pierre, Timothy, George, and Gerry (2009) observe that recent empirical research has used financial, operational, and market-based performance measures. Financial

measures focus on indicators such as sales revenue, share price and economic value added (Abbasi & Malik, 2015). The operational performance focuses on extending to which an organization is efficient in producing the goods and services that customers want at the lowest cost and effort as possible. Conventional measures of operational performance include speed, dependability, flexibility, quality, and cost (Kaplan, 2010).

Market-based performance relates to the expectations of shareholders about the future of the firm. Price-Earnings per Share, dividend yields, and stock repurchases are standard measures of market-based performance. According to Kaplan (2010), the BSC framework adds three other critical perspectives to the traditional measures of performance, namely, relationship with its customers, key processes, learning, and growth. Customer perspective is about how firms draw and strengthen relationships with their customers to differentiate themselves from their competitors. Standard measures under this perspective include customer satisfaction, the number of customers won, and new product sales (Abbasi & Malik, 2015).

The internal process perspective is related to the firm's operational efficiency. Typical measures under this perspective include order conversion rate, unit cost reduction, and lead time reduction. Al-mawali, Zainuddin, and Ali (2010) posit that innovation and learning perspective relates to the development of capabilities needed for the future. Performance under this perspective is measured in terms of information systems capabilities, the flow of new product ideas, employee motivation, and empowerment.

As the BSC framework developed, the TBL emerged as a new performance measurement tool. Like the BSC, this approach is based on stakeholder approach but adds social and environmental measures to the economic measures commonly used in most organizations (Selvam *et al.*, 2016). Environmental performance measures performance in terms of the amount of resources firms use for their operations (such as energy, land, water) and the by-products of their operations (such as solid waste, air pollution, and chemical residues) (YCELP, 2018). Social performance measures performance in terms of the impact that firms have on the communities in which they operate (Taouab & Issor, 2019). This study followed Santos and Brito (2012) and used profit growth, market value, customer satisfaction, employee satisfaction, environmental stewardship, corporate governance, and social excellence as indicators of the firm performance of manufacturing firms in Kenya.

Despite its importance to strategic management, research on firm performance suffers from gaps such as lack of consensus on its definition and selection of indicators (Selvam et al., 2016). Furthermore, many studies have measured firm performance with a single indicator (mainly financial performance and represented the concept as unidimensional. As such, the strategic management field needs more studies to get a more precise conceptualization of firm performance and identify better measurement efforts (Oliver, 2014). Furthermore, studies on the performance of manufacturing firms in Kenya have not considered the influence of dynamic capabilities on performance in the context of food processing firms.

1.1.2 Dynamic Capabilities

Helfat and Martin (2015) argue that dynamic capabilities are the capacity of an organization to create, extend or modify its resource base. Teece (2017) defined them as a firm's orientation to continuously integrate, reconfigure, renew, and recreate its resources capabilities and reconstruct its core capabilities in response to the changing environment to attain and sustain competitive advantage. Dynamic capabilities are seen as a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness (Peteraf, Stefano &.Verona, 2013).

Vogel and Güttel (2013) refer to dynamic capabilities as a set of identifiable processes such as product development, decision making and alliancing. Harris & Helfat (2016) described them as processes or routines which may have become embedded in the firm over time and are employed to reconfigure the firm's resource base by deleting decaying resources or recombining old resources in new ways. Teece (2012) states that the role of dynamic capabilities is to impact on the firm's extant resource base and transform it in such a way that a new bundle or configuration of resources is created so that the firm can sustain or enhance its performance.

Dynamic capabilities can take on multiple roles in organizations, such as changing resource allocations, organizational processes, knowledge development and transfer and decision making (Wilhelm, Schlömer & Maurer, 2015). Schilke (2013) argues that to compete successfully in their markets, firms need dynamic capabilities to help

them to upgrade their ordinary capabilities, or to create new ones to sustain performance.

Wang, Senaratne and Rafiq, (2015) identified absorptive capability, adaptive capability, and innovative capability are four main categories found across industries. Teece (2010) found marketing and managerial capabilities as other categories found across industries. Absorptive capability is the ability of the firm to recognize valuable external information and applying it to commercial ends. It is the managing of knowledge and purposely using it in the firm (Andrea & Peter, 2012). Innovative capability is the firm's capacity to develop new products and markets (Wang, 2014).

Building on Teece, (2014), that various categories of Dynamic Capabilities exist contingent on the type of industry, this study used adaptive capability, marketing capability, alliancing capability, and managerial capability as the dependent variables representing Dynamic Capabilities. The four are relevant to Food Manufacturing firms and formed the components of the independent variable of the study.

Paliokaite (2012) explains that adaptive capability involves horizon scanning, change management and resilience. Horizon scanning is the continuous collecting of information about the market (Ali, Sun & Ali 2017). Change management is about altering goals, plans, structures, and systems using information gathered through the horizon-scanning process (Henricks, Young & Kehoe, 2020). Resilience, on the other hand, is building the ability of the firm to endure disruptions (Maria & Ioannis, 2019). This study operationalized adaptive capability in terms of ability to do horizon scanning of the environment for recent technologies, use of information gathered from

horizon scanning to manage change and resilience to survive adversities as conceptualized by (Paliokaite, 2012). Liu and Lin (2019) argue that adaptive capability is critical to firm evolution, survival, and Firm Performance.

Marketing capability is the integrative processes designed to apply the collective knowledge, skills, and resources of a firm to the market-related needs of its business, enabling the business to add value to customer value creation and be competitive (Sun & Price,2016). Heirati, O'Cass and Ngo (2013), conceptualized marketing capability in terms of market sensing, customer relationship management and brand management. Market sensing is the firm's ability to learn about trends happening in current and prospective markets. Lin, Sanders, Sun, Shipton & Mooi (2018) view customer relationship management as the activities related to creating and maintaining relationships with customers (Santouridis & Veraki, 2017). Brand management refers to the set of activities related to development, supporting, and maintaining strong brands (Hanna & Rowley, 2011) In this study, marketing capability was operationalized in terms of activities related to market sensing, customer relationship and brand management as conceptualized by (Heirati, O'Cass and Ngo, 2013).

Ziggers and Tjemkes,(2010) argue that alliance capabilities are the tasks of identifying partners, initiating the relationship, the possible restructuring as well as the termination of the relationship. Alliances influence performance by enabling firms to overcome resource constraints, hedge against environmental uncertainties and create options to expand and enter new markets (Kih, 2019). This study operationalized alliance capability in terms of new partner identification, inter-

organizational coordination, alliance experience, and termination of relationships as conceptualized by (Ziggers and Tjemkes, 2010).

Managerial capabilities are dynamic drivers for achieving congruence between the firms' competencies for the renewal of resource positions and changing environmental conditions (Teece, 2010). Teece (2012) posits that managerial capabilities are embedded in the managements' human capital, social capital, and cognition. Helfat and Martin (2015) argue that human capital is learnt skills which require investment in training. According to Harris and Helfat (2014), managers make different decisions because they possess different human capital.

The notion of social capital emerges from a belief that goodwill from social ties can influence work settings (Steers, Sanchez-Runde & Nardon L.2012) viewed managerial cognition consists of the mental models that inform managers' decisions. Helfat and Martin (2015) point out that the decisions that managers make are influenced by their managerial cognition. This study operationalized managerial capability in terms of activities related to decision-making, management style, people development, succession planning managerial human capital and managerial social capital (Teece, 2012).

Scholars have portrayed dynamic capabilities as direct drivers, preconditions, moderators, or mediators of firm Performance thus, there is no consensus as to how the two are linked. Furthermore, studies on how dynamic capabilities affect firm performance of Food Manufacturing firms in Kenya are rare. For instance, the interaction of dynamic capabilities and other organizational variables, such as firm

size and firm competence, has not been thoroughly investigated has not been investigated in Kenya.

1.1.3 Firm Competence

Firm competence has been defined as the combination of multiple resources to execute a set of activities which the firm performs exceptionally well, and which gives the firm a competitive advantage over its peers (Nguyen, 2016). Competencies are the set of specialized skills, qualities, and characteristics of knowledge that enable a firm to excel in their performance and achieve a higher level of customer satisfaction than its peers through the integration of resources, technology, and routines (Lida & Eugenia,2011).

Firm competencies interact with other intellectual corporate phenomena to support firm survival and success. When a firm's strategic tangible and intangible resources and capabilities combine, they create competences which the firms excel at and gives it a competitive advantage over their peers (Wash & Linton, 2010). Hill and Jones (2010) uses the term distinctive competence and argue that perspectives on competence centre on the uniqueness and comparative performance of something arising within an organization in the light of the efforts of its competitors.

Nguyen (2016) argues that although resources, capabilities, and competencies are closely related to each other, they can be distinguished by their characteristics. Thus, Firm resources refer to their financial, physical, human, technological, and organizational capital. Firm capabilities are intangible and refer to a company's skills at coordinating its resources and putting them to productive use. Firm competence

refers to the firm's unique strength that enables the firm to achieve superior efficiency, quality, innovation, or customer responsiveness compared to its peers. Teece (2017) viewed competences as capabilities of an organization that describes performance excellence and difficult to imitate employee skills and processes required to achieve success. Dynamic Capabilities, on the other hand, refer to a firms' ability to adjust its competences over time and is related to resources necessary for change.

According to Walsh and Linton (2010), competence is crucial to a firm because it is one of the mechanisms by which firms use to leverage, recombine, and reconfigure resources. Chiu, Chu, and Ku (2019) observe that firms can enhance their performance by exploiting their competences which enables them to achieve superior efficiency thus enabling it to lower its cost, charge a higher price and in turn outperform its competitors. Cockburn, Henderson, and Stern, (2018) viewed firm competence from four distinct approaches: organizational competence, foundational competence, technological competence, and functional competence.

Nimish and Cader, (2016) argue that organizational competency is an aspect of the business believed to have the greatest strategic value and measured at the level of the organization rather than at the level of the individual. According to Chouhan and Srivastava (2014), organizational competence refers to a firm's intangible strategic assets such as the corporate reputation of the firm and its brands or image, product or service quality, knowledge of customer needs, ability to serve its customers and customer loyalty.

Foundational competencies are the set of skills, knowledge, and attitudes and attribute necessary for broad job functions (Agha, Alrubaiee & Jamhour, 2012). They are supporting level competencies linked to successful performance and are desirable regardless of an individual's area of expertise or role. Jabbouri, Zahiri (2014) cite oral communication, adaptability, initiative, integrity professionalism, cultural sensitivity as indicators of foundational competence.

Technological competence is the capability that enables the firm to design and manufacture a physical product or service with certain features (Agha, Alrubaiee & Jamhour, 2012). Such technically related resources constitute it as design and engineering know-how, product, process design equipment, manufacturing facilities, and procedures for quality control. According to Wahab (2012), technology refers to tools, devices, and knowledge that mediate between inputs and outputs (process technology) and create new products or services (product technology).

Agha, Alrubaiee and Jamhour (2012) view functional competence as the knowledge, skill, and abilities required to fulfil specific job tasks, duties, or responsibilities. It is a specific knowledge or skill area that relates to successful performance in the job. According to Wahab (2012), functional competence is the combination of practical, theoretical, and cognitive skills needed to perform a specific function. Nimish and Cader, (2016) observe that functional competencies are job-specific and are associated with the technical functions of a firm such as organizing, planning, coordinating, and controlling and have an influence on the individual and firm performance).

The relationship between dynamic capabilities and performance as mediated by firm competence has not been exhaustively studied in Kenya in the context of food processing firms hence the need for more empirical studies to understand the relationship between these variables. In this study, Firm competence was operationalized in terms of organizational competence, foundational competencies, functional competences, and technological competences.

1.1.4 Firm Size

Firm size is the quantity, range of production capabilities and potential possessed by a firm (Shaheen & Malik, 2012). Mgeni and Nayak (2016) conceptualized firm size simply as a reflection of how large an enterprise is in terms of infrastructure and employment. De and Nagaraj (2014) argue that firms seek to increase their performance by growing their size in terms of revenues, profits, number of employees, manufacturing capacity, geographic presence, market share to make profits for their owners. Lee and Giorgis (2004) observe that studies on the effect of firm size on firm performance have generated mixed results with some supporting a positive relationship and others opposing it.

Usman and Zahid (2011) argue that large firms perform better than smaller firms in terms of ROA and ROE because they tend to have higher operational efficiency and market power. They have a higher ability to raise finance and take advantage of new markets than smaller firms and take advantage of economies of scale. According to Zahra and George (2012), argue because large firms have more access to financial

resources, they can build dynamic capabilities which enable them to perform better than smaller firms.

It has however been observed by Sinthupundaja and Chiadamrong, (2015) that when larger firms become too large, they may face inertia due to rigidity of management and routines, which can reduce their Performance. Furthermore, smaller firms can reconfigure their resources to respond to changes in the environment faster than larger firms because they are less constrained by rigidities of substantial amounts of sunk costs (Akinyomi &Adebayo, 2013). Teece (2012) observes that firm dynamic capabilities determine how firms respond to changes in the operating environment and that small firms can rely on their flexibility to offset some of the challenges associated with resource constraints and achieve high performance.

OECD (2017) observes that there are many indicators for firm size including capital invested, the volume of output, the value of inputs, amount of power used, amount of raw materials consumed, productive capacity, and the number of wage earners employed. However, the most used are the number of people the firm employs and its annual turnover. According to GOK (2012), Micro enterprises employ fewer than 10 people and have a maximum turnover of Ksh 500,000; small enterprises employ 10 to 49 people and have a maximum annual turnover of Ksh 5,000,000; medium-sized enterprises employ 50 to 249 people and have a maximum annual turnover of Ksh 80,000,000 while Large enterprises employ 250 or more people and have an annual turnover exceeding Ksh 80,000,000. Dang, Li, and Yang, (2017) argued that natural log of total assets, number of owners, number of employees and market share are

influential proxies for firm size. Market capitalization has also been used as a proxy for firm size by other scholars (Santos & Brito (2012).

KIPPRA (2012), attributes the poor performance of food manufacturing firms in Kenya partly to challenges related to firm size. Furthermore, researchers have reported conflicting reports on how firm size impacts firm performance hence the need for further research on the relationship between the two (Akintoye, 2008). In this regard, this study conceptualized a model which suggested that firm size moderates the impact of dynamic capabilities on the performance of food manufacturing firms. Firm size was chosen as a moderator because it was considered as having a significant effect on how firms deploy dynamic capabilities given that larger firms have more resources to equip themselves with dynamic capabilities than smaller firms. The study operationalized firm size in terms of the value of sales, size of market share, the value of inputs used, and size of the workforce.

1.1.5 Food Manufacturing Firms in Kenya

Food Manufacturing is the largest manufacturing sub-sector in Kenya. It contributes 30% manufacturing GDP and 40% of all employees in the manufacturing sector (GOK, 2018). The study identified 70 Food Manufacturing firms operating in Nairobi City County of which 20 were large scale and 50 were medium-scale. Food manufacturing firms display distinctive characteristics ranging from family-owned to publicly owned. Some of the firms are foreign owned, while others are locally owned.

Flour mills represent 18% of the total number of Food Manufacturing firms. Processing of edible oils represents 18%, while sugar and confectionery processing

comprise 12%. The rest are bakeries and processors of vegetable, fruit, dairy, fish, and meat (Promar Consulting, 2016). In terms of value addition, sugar and confectionery contribute 15%, edible oils 10%, and flour products 9% total value created by food manufacturing firms.

GOK (2009) named several barriers to the performance of the sector: limited access to finance, absorption of technology, inadequate marketing infrastructure, vulnerability to weather shocks, human resources, and weak institutional framework. Low production, poor post-harvest handling and vulnerability to weather shocks are also said to be responsible for poor performance on the supply side of the Food Manufacturing sector (KIPPRA, 2017). World Bank (2013) identified high labor costs, unstable power supply, inadequate infrastructure, and inefficient logistics as additional challenges facing Kenyan Food Manufacturing firms.

The idea of increasing the performance of food manufacturing firms has recently gained attention in Kenya due to widespread discontent with the frequent food shortages and growing public pressure on food manufacturing firms to satisfy the demand for food (KIPPRA 2017). Furthermore, there is pressure on processing firms to introduce management strategies that will ensure increased performance and attainment of growth targets (KIPPRA, 2017). Increasing the performance of food manufacturing firms is seen as a way of mitigating food insecurity, creating employment, and sustaining economic growth.

Increasing the performance of food manufacturing firms is seen as a contributor to the creation of employment, sustaining economic growth, and achieving the Big Four

Agenda. Through its commitments on the UN Sustainability Goal 2 and Vision 2030, the government has pledged to increase food production. However, the interventions are aimed at increasing primary production. Government policy papers related to the food value chain have not given attention to the dynamic capabilities of food manufacturing firms (GOK, 2018).

1.2 Statement of the Problem

The performance of manufacturing firms has been declining. Indeed, production volumes have been contracting, leading to an overall decline of 1.1 percent in 2017 (KNBS, 2018). In terms of growth rate, the performance had declined from 5.6% in 2013 to 0.2% in 2017. This decline has largely been attributed to the inferior performance of firms in the Food Manufacturing sector whose growth rate declined by 10.8 percent in 2017 (KNBS, 2018). Previously performance in terms of growth averaged 3.5%, 3.2%, 3.01% in 2014, 2015 and 2016 respectively (KNBS, 2017). As a result of the declining performance of food manufacturing firms, the country has been experiencing a food deficit (KIPPRA, 2018).

Hampwaye and Hampunda (2016) further observe that inability of these firms to cope with changes in the operating environment has contributed to their poor performance, and this has resulted in their stagnation or decline altogether. A similar conclusion was reached by (Mwangi & Gakobo, 2018), who observed that poor performance has led to the collapse of some firms in Kenya and relocation to other countries.

Despite its importance to strategic management, research on the concept of firm performance suffers from gaps such as lack of consensus on its definition and

selection of indicators (Gross, 2015). Because of the lack of a universal definition, many studies have measured firm performance with a single indicator (mainly financial performance) thus represented the concept as unidimensional when it is multidimensional (Slapper & Hall, 2011). Consequently, strategic management theory needs more studies to get a more precise conceptualization of firm performance and identify better indicators for use in measurement (Richard *et al.*, 2009).

Similarly, there is limited consensus as to how dynamic capabilities are linked to performance because the concept of dynamic capabilities itself has not been exhaustively studied. Thus, there are different perceptions of how dynamic capabilities influence firm performance (Gorgól, 2017). For instance, scholars have portrayed dynamic capabilities as direct drivers, preconditions, moderators, or mediators of firm performance (Arend & Bromiley, 2009). There is, therefore, a need for further research to validate previous research on the relationship between dynamic capabilities and performance.

Furthermore, most of the empirical studies on the effect of dynamic capabilities on firm performance were done in developed countries with different cultural and economic settings (Protogerou, Caloghirou & Lioukas 2012). This makes it difficult to generalize the results to a Kenyan setting. More empirical studies are therefore needed in developing countries to provide more academic rigor to the concept. According to Arend and Bromiley (2009), many studies on dynamic capabilities relied on small samples. This may reflect a careful choice of firms that researchers believed would possess dynamic capabilities. This raises issues of, generality and reliability of results to other settings, companies, or countries. It is against this background that the

study sought to establish the effect of dynamic capabilities on performance and whether increasing dynamic capabilities would enhance performance of food manufacturing firms in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of this study was to investigate the effect of dynamic capabilities on the performance of manufacturing firms in Kenya in the context of food manufacturing.

1.3.2 Specific Objectives

The specific objectives of this study were:

i. To assess the effect of adaptive capabilities on the performance of food manufacturing firms in Kenya.

ii. To determine the effect of marketing capabilities on the performance of food manufacturing firms in Kenya.

iii. To establish the extent to which alliancing capabilities affect the performance of food manufacturing firms in Kenya.

iv. To examine the effect of managerial capabilities on the performance of food manufacturing firms in Kenya.

v. To establish the moderating effect of firm size on the relationship between dynamic capabilities and performance of food manufacturing firms in Kenya.

vi. To assess the mediating effect of firm competence on the relationship between dynamic capabilities and performance of food manufacturing firms in Kenya.

1.4 Research Hypotheses

The study tested the following hypotheses:

H_{01}: Adaptive capabilities have no significant effect on the performance of food manufacturing firms in Kenya.

H_{02}: Marketing capabilities have no significant effect on the performance of food manufacturing firms in Kenya.

H_{03}: Alliancing capabilities have no significant effect on the performance of food manufacturing firms in Kenya.

H_{04}: Managerial capabilities have no significant effect on the performance of food manufacturing firms in Kenya.

H_{05}: Firm competence has no mediating effect on the effect of dynamic capabilities on the performance of food manufacturing firms in Kenya.

H_{06}: Firm size has no moderating effect on the relationship between dynamic capabilities on the performance of food manufacturing firms in Kenya.

1.5 Significance of the Study

This study provides useful insight on how food insecurity in Kenya can be mitigated through increasing dynamic capabilities and competences of food manufacturing firms. Thus, by increasing dynamic capabilities, firms can increase their performance and by so doing, mitigate food insecurity. In this regard, it informs custodians of food policy that interventions seeking to increase food production can draw from the

findings of this study and initiate interventions aimed at enhancing dynamic capabilities and competences of food manufacturing firms.

The findings of this study show that the effect of dynamic capabilities on performance remain positive irrespective of the size of the firm. This is significant in that it shows that small firms can increase performance by increasing their dynamic capabilities while large firms can overcome stagnation and success traps by using dynamic capabilities to renew their resource base continually. The finding offers a remedy to rigidities associated with firms as they grow larger and older.

The study was significant in that it was the first study in Kenya to investigate the interaction between adaptive capability, marketing capability, alliancing capability and managerial capabilities and performance using firm competence as a mediating variable and firm size as a moderating variable. It showed how dynamic capabilities interact between themselves and other corporate phenomena to influence performance. The study thus provides useful information to inform firm strategy. Furthermore, the study helps to fill the gap left by other local studies on the relationship between dynamic capabilities and performance. The study will also help future scholars wishing to research the area of dynamic capabilities and firm performance.

The study used financial performance, social excellence, environmental stewardship, and corporate governance as indicators of performance. The latter three, although not required for regulatory reporting of firm performance are important indicators as they

relate to long term firm survival. The study therefore provides scope for future review regulatory framework for reporting performance of manufacturing firms in Kenya.

1.6 Scope of the Study

The study sought to investigate the effect of dynamic capabilities on the performance of selected manufacturing firms in Kenya in the context of food manufacturing firms. Specifically, the study evaluated the effect of adaptive capability, marketing capability, alliance capability, and managerial capability on the performance of food manufacturing firms. It also aimed at examining the mediating effect of firm competence and the moderating effect of firm size on the effect of dynamic capabilities on the performance of manufacturing firms.

The study was conducted among food manufacturing firms in Nairobi City County, Kenya. Nairobi County was chosen because it has the largest concentration of food manufacturing firms and plays host to the headquarters of most of the manufacturing firms. The food processing subsector was chosen as the context of the study because of its importance towards achieving the Governments commitments under the UN Sustainability Goal 2, of ending hunger and all forms of malnutrition by 2030.

The target population consisted of 70 food manufacturing firms located in Nairobi appearing in the KAM directory of manufacturers in 2019. From this population, a sample of 59 firms was selected. The study collected data relating to the period 2016-2018. This period was chosen because it was the period when the food manufacturing subsector grew by 2.6 % in 2016, dropped by -10.8% in 2017 and then rose to 4.2% in

2018. It is also the period during which the Government identified food security as one of its priorities in the Vision 2030.

1.7 Organization of the Study

This study is organized into five chapters. The foregoing chapter one presents an introduction and background of the study variables which include dynamic capabilities, firm size, firm competence, and organizational performance. The chapter further highlights the research problem, the research objectives, scope, and justification for the study. Chapter two is a review of the theoretical and empirical literature on the study variables. The chapter closes with a conceptual framework showing the relationships between the variables. Chapter three is a discussion on the research methodology, research philosophy research design, the population, data collection procedure, operationalization of variables, the empirical model, diagnostic tests, and ethical considerations. Chapter four presents the data analysis results and discussions on the study findings. Chapter five presents the study summary, conclusions, recommendations with policy implications, contributions of the study to the general body of knowledge and areas for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of theories supporting the study and highlights some theoretical gaps left by each of the theories. The chapter also presents a review of empirical literature on the study variables that is adaptive capability, marketing capability, alliancing capability managerial capability. The review also covers empirical literature on firm competence and firm size which were the mediating and moderating variables, respectively. The chapter outlines the research gaps addressed by the study and concludes with a conceptual framework depicting the relationships between the study variables.

2.2 Theoretical Review

This review gives a theoretical approach to the relationship between dynamic capabilities and performance as mediated by firm competence and moderated by firm size. This study was informed by the dynamic capabilities theory as the main theory. Since the Dynamic capability theory could not inform all the variables in the model the study identifies additional theories to complement the main theory. The complementary theories identified were the theory of optimal firm size, the upper echelons theory, the competence-based theory, the balanced score card framework, the RBV theory, and the stakeholder theory. The following review lays the theoretical foundation for the study.

2.2.1 Dynamic Capabilities Theory

Teece's (1990) working paper is probably the first contribution to developing the notion of dynamic capabilities (Ambrosini & Bowman, 2009). Dynamic capabilities theory itself was developed by (Teece & Pisano, 1994). Teece, Pisano, and Shuen (1997, 2007) saw the competitive advantage in turbulent environments as a function of dynamic capabilities rather than competitive positioning or industry conflict. They used the term "dynamic" to reflect the capacity to renew competences to achieve congruence with the changing environment.

This theory evolved from the evolutionary theory of the firm (Pisano, 2014). The theory enhances the RBV (Teece, Pisano & Shuen, 1997; Teece 2017; Zahra *et al.*, 2006). According to this theory, firms achieve sustainable competitive advantage by reacting rapidly and flexibly to changing market environments (Teece 2017). Dynamic capabilities theory explains long-run firm survival by showing how firms can manage competitive threats by redeploying their resources (Teece, 2010). In this theory, firm performance depends on distinct processes shaped by asset positions and the evolution path(s) the firm has adopted or inherited (Teece et al., 1997 & Pisano, 2016). The theory suggests that performance a firm during periods of rapid change depends on its ability to sharpen its technological, organizational, and managerial processes (Teece, 2017). Firms use dynamic capabilities to reconfigure their resources as markets emerge, collide, mutate, or cease (Teece, Pisano & Shuen, 1997).

The price system is inefficient in the allocation of a firm's resources. Therefore, managers give directives to deploy in value-enhancing ways (Teece, 2018). Because

managers make decisions under uncertainty, they do not create once-and-for-all solutions but continually reconfigure firm resources and competences as needed (Zara *et al.* 2006). Teece (2006) cast dynamic capabilities against Porter's five forces and points out that in the latter, the sustainable advantage comes from hiding behind market structures, erecting entry barriers, or building them if they did not exist. In the dynamic capabilities framework, the market structure does not matter.

Teece (2012) argues that in this framework, sustainable performance comes from sharpening internal processes, structures, and procedures to generate innovations, be they technological or organizational. He further argued that the dynamic capabilities framework recognizes analytical functions which must be performed at the enterprise level to sustain success. Danneels (2002) suggested two levels of dynamic capabilities. The first order capabilities are the firm's existing resource base, the resources that allow the firm to earn a living directly. The second-order capabilities refer to dynamic capabilities that enable the creation of new capabilities.

Winter (2003) argued that the dynamic capability hierarchy begins with operating capabilities or zero-level capabilities that allow firms to earn a living in the present. The first order capabilities are that allow for a change in zero-order capabilities to occur. Higher-order capabilities are the outcome of organizational learning which result in creating or modifying a firm's dynamic capabilities. Ambrosini and Bowman (2009) identify second order which they define as renewing dynamic capabilities these second-level dynamic capabilities are developed and embedded within the firm

as they progress through time via the accumulation of experience and specific investments.

Ambrosini, Bowman, and Collier (2009) recognize another category; regenerative dynamic capabilities that allow the firm to move away from previous practices towards new dynamic capabilities. Regenerative dynamic capabilities like any other dynamic capabilities come in many forms; for example, they might involve restructuring, learning, or leveraging. The critical difference is that whereas renewing capabilities operate directly on the resource base while regenerative capabilities impact the renewing or incremental dynamic capabilities.

One of the criticisms of the dynamic capabilities concept is that they are challenging to measure empirically as are the underlying operational processes as well as the relationship between dynamic capabilities and firm performance (Ambrosini & Bowman, 2009),. It is also difficult to measure the routines and processes that are often idiosyncratic to firms or part of resource bundles. The theory contributes to strategic management by explaining how firms can sustain performance using dynamic capabilities. This study used the dynamic capabilities theory to inform the independent variable.

2.2.2 The Theory of Optimal Firm Size

The theory of optimal firm size was postulated by EAG Robinson in 1931. The theory posits that there is an optimum size at which a firm can operate at a scale at which with the existing technology and organizing ability, has the lowest average cost per unit of output. Robinson (1931) identified that the optimum size of the firm as the size

at which the firm is fully enjoying all the internal economies of scale and the internal diseconomies of scale have not yet started accruing. The theory further posits that all firms seek to grow until they reach the minimum efficient scale (MES) point of production beyond which further growth is either technically impossible or unprofitable.

According to Almeida and Wolfenson (2003), the optimal size for each firm depends on its organizational capital, and in the case of entrepreneurial firms, the abilities of the entrepreneur. Many scholars like Kor, Mahoney and Michael (2007), argue that firms exist to make a return on the investment of shareholders. In this regard, firms want to grow towards the level of production where there is a maximum difference between total revenue and total cost. The optimum firm size theory postulates that firm size is strongly dependent on several considerations, including market structure level of competition and technological innovations.

The view held by Penrose (2008) is that firm size is a signal of resource capacity and capability. Thus, the larger the firm, the more organizational resources it has a better equipped it is to achieve organizational goals. In this regard, small firms must aspire to grow into large firms so that their shareholders can get higher returns. Olawale (2017) observes that ideally, firms seek to grow bigger in terms of revenues, profits, workforce, geographic presence, market share, or asset accumulation. The theory of optimum firm size is not without critics. For instance, recalling previous work on the growth of the firm (Penrose, 2008) argues that the growth of a firm is dependent not on market conditions or cost considerations but by the managerial capability to utilize

substantial resources. She posits that there is no optimum firm size in the long term and that firm growth, diversification, and innovation are driven by the existence of unused and underutilized resources.

Similarly, Shaheen and Malik, (2012) observe that the boundaries of firm growth potential can be determined by factors such as entrepreneurial skill, availability of finance, managerial capability. Olawale (2017) observes that in conditions of imperfect competition, a firm's ability to grow may be driven its innovative capability to develop unique products and markets rather than by cost considerations. The theory of optimum firm size contributes to strategic management by offering an analytical concept for evaluating firm size under given conditions of technology and market structure. The theory of optimal firm size was used in this study to inform the moderating variable.

2.2.3 The Competence-Based Theory (CBT) of the Firm

Philip Selznick (1957) was the originator of the theory. It emerged from the work of Oskar Morgenstern (1951) who perceived organizations as bundles of competencies. In this theory, competence is the ability to sustainably deploy resources in a way that supports the firm to achieve its objective of creating value for its stakeholders (Delamare & Winterton, 2005). The theory broadly states that a firm can only perform better than others if it can use available resources more effectively and efficiently by applying competencies in ways its rivals cannot imitate (Sanchez & Heene 2004).

Prahalad and Hamel, (1990) argue that the competence-based theory complements the dominant Potterian view in the field of strategy by drawing attention to the internal

aspects of organizations like dynamic capabilities as being sources of superior performance. Scholars argue that although an organization may have many competencies and capabilities, only a few of these are combined in such a way as to become core competencies (Prahalad & Hamel, 1990). By focusing on their core competencies, firms get a competitive advantage by doing the things which they excel at (Rust *et al.*, 2004).

Firm competencies that do not create imitable products or services are not core and do not give the firm a sustainable competitive advantage (Teece 2004). The competence-based view contributes to strategic management by offering insights which are useful in understanding how firms achieve superior Performance. It also helps to explain why firms perform differently. However, although the theory offers a framework to explain the roots of corporate success, its contributions are yet to be analysed in a comprehensive way (Freiling, 2004). The study used the competence-based theory of the firm to inform the mediating variable.

2.2.4 The Upper Echelons Theory

Hambrick and Mason (1984), were the first proponents of the theory. According to this theory, managerial background characteristics predict strategic choices and performance levels. According to Hambrick (2007), the dominant principle of the theory is that the managers' interpretations of the situations they face are motivated by their experiences, values, and personalities, and this, in turn, affects the decisions they make.

The theory posits that the performance of a firm depends on the characteristics of its managers, such as age, functional background, and educational experiences (Sadeghinejad, 2013). According to Carpenter and Fredrickson (2001), the leadership of a complex organization is a shared activity and the collective cognitions, capabilities, and interactions of the entire top management team (TMT). In this vein, organizational outcomes depend at least in part, on TMT composition. They argue that by examining the individual characteristics of members of the TMT, insights into how individual interpretations of situational factors impact the decisions made by these employees can be gained as they relate to decision making and organizational performance (Adner & Helfat, 2003).

Tripsas and Gavetti (2000) highlighted that senior managers determine the way dynamic capabilities are deployed. In this regard, what managers perceive their environment is critical in understanding how organizations deploy dynamic capabilities. Because managers perceive the environment differently, firms may have similar characteristics but deploy dynamic capabilities differently (Ambrosini, Bowman & Collier, 2009). The upper echelons theory has often been combined with social psychological theories to shed light on the role of individual psychological factors and team processes on executive decision-making (Carpenter & Fredrickson, 2001).

Upper echelons theory can assist in predicting organizational outcomes or in selecting and developing upper-level executives. The theory is also relevant in determining strategies for exploiting organizational, managerial capabilities and predicting

competitor moves and countermoves (Tripsas & Gavetti, 2000). The main criticism of the theory is that it relies heavily on observable characteristics of top management and not much on unobservable characteristics such as ethical behaviour (Oppong, 2014). This study used the upper echelons theory to inform managerial capability, one of the independent variables.

2.2.5 Resource-Based View (RBV)

The RBV was suggested by Wernerfelt (1984) and popularized by Barney (1991) using insights provided by Penrose (1959). According to Ireland, Michael, Hitt and Sirmon (2003), it is drawn from at least four theoretical sources; the study of distinctive competencies, Ricardian economics, Penrosian economics and the study of the anti-trust implications of economics. In RBV, firms are conceived as bundles of resources (Wang, Senarathe & Rafiq, 2014). According to Peteraf and Barney (2003), the critical determinants of firm Performance are the tangible and intangible assets resources owned by the firm.

The RBV presents a connection between internal resources, strategy, and the performance of the organization (Helfat & Peteraf, 2015). RBV was a shift from earlier suggestions that superior performance comes from managing factors that are external to the firm (Peteraf & Barney 2003). In essence, the underlying presumption of the theory is that it is the resources and competencies inherent in the firm rather than in the environment which determines firm performance (Wang, Senarathe & Rafiq, 2014). According to Peteraf and Bergen (2003), a central premise of the resource-based view is that firms compete based on their resources and capabilities.

According to Helfat and Peteraf, (2015), a firm's resources at a given time could be defined as those (tangible and intangible) assets which are tied semi-permanently to the firm. Tangible resources can easily be bought in the market, so they confer little advantage to the companies in the long run because rivals can soon acquire identical assets. Makadok (2003) argued that unlike physical resources, intangible resources such as brand reputation are built over a long time and are something that other companies cannot buy from the market. He argues that intangible resources usually stay within a company and are the primary source of sustainable performance. Barney (1991) argued that a firm's tangible and intangible resources must be valuable, rare, imperfectly imitable, and non-substitutable (VRIN) to be a source of superior performance.

The theory emphasizes that value creation and superior performance of a firm is affected by a combination of the competitive strategy and its resource base (Eisenhardt & Martin, 2000). The theory contributes to strategic management by explaining how a form can increase performance by acquiring and utilizing VRIN resources (Alvarez & Barney, 2000). One weakness of RBV is that it is static and therefore, does not explain how to sustain Performance in a dynamic market (Kraaijenbrink, Spender, & Groen, 2010). Teece (2010) explained that the RBV was not able to provide explanations as to how some successful firms demonstrated timely responsiveness and rapid and flexible product innovation along with the management capability to effectively coordinate and redeploy internal and external competences.

Teece (2010) further argued that it is essential to consider the changing nature of the external environment and hence the role of strategic management, which is principally about adapting, integrating, and reconfiguring internal and external organizational skills, resources and functional competencies toward the changing environment. Proponents of the RBV have also been criticized for poorly defining the core constructs of the theory (Kraaijenbrink, *et al* 2010) RBV scholars have been criticized for failing to agree on the definition of key variables and constructs, leading to inconsistent presentations of theory (Bromley 2009). In this study, RBV informs the independent variable.

2.2.6 The Stakeholder Theory

Although Freeman (1984) is often cited as the postulator of the stakeholder theory, Ian Mitroff (1993) is said to have been the first person to define it. The theory was built on previous research in strategic management, systems theory, organizational theory, and corporate social responsibility. Broadly, the stakeholder theory is a conceptual framework of organizational management which addresses moral and ethical values of organizations. The theory posits that because each business's decision will potentially affect the well-being of not only its stockholders but also its employees, customers, and the community as a whole and therefore, businesses must promote the interests of all stakeholders (Harrison & Wicks 2013).

In its current use, the term stakeholder grew out of the pioneering work at Stanford Research Institute (now SRI International) in the 1960s. Stakeholders are all groups of entities that are affected by the activities of the organization. Miles (2017) separates

stakeholders into two; relevant and irrelevant. Relevant stakeholders are those that have invested something in the organization and therefore subject to some risk from the organization's activities. These are categorized into voluntary and non-voluntary. Voluntary stakeholders are those that choose to deal with the organization. These include shareholders, investors, employees, customers, and suppliers who require value otherwise they can impact the performance of the organization by withdrawing their stake if their interests are not met.

Involuntary stakeholders such as individuals, communities, and interest, do not choose to have a relationship with the organization so they require some form of protection (Parmar, Freeman, Harrison, Jeffrey, De Colle (2010). They can impact performance by attracting legislation that affects the license of the organization to operate. Miles (2017) also cites Clarkson (1995) who classified stakeholders in terms of their power, legitimacy, and urgency. Freeman et al. (2015) argue that the stakeholder approach is intended to provide a single strategic framework, flexible enough to deal with environmental shifts without requiring managers to adopt new strategic paradigms regularly. In this theory, a firm can only be successful when it delivers value to its stakeholders, and those values come in many forms beyond financial gain.

The theory helps to build a framework that is responsive to the concerns of managers faced by environmental turbulence and demands from third party stakeholders. The theory has, however, been criticized for deviating from the view that in free competition, the sole responsibility of a business is to use its resources in activities

designed to increase profits. Furthermore, it is challenging to balance the competing interests of all the stakeholders of an organization. Based Miles (2017) view that a firm can continue performing and last over time if it can build and maintain sustainable and durable relationships with all its stakeholders, this study used the stakeholder theory to inform the choice of indicators for firm performance, the dependent variable.

2.2.7 Balanced Score Card Framework

The Balanced Scorecard Framework was developed by Robert Kaplan and David Norton in 1992 as a framework for measuring performance from four different perspectives: financial, customer, internal process and learning and growth. According to Kaplan (2010), non-financial perspectives for measuring company success were introduced in the BSC framework because financial metrics were deemed not to offer an insufficient measurement of performance.

Drury (2004) argues that the need to integrate financial and non-financial measures of performance led to the emergence of the BSC as a set of performance measures drawn from the firm's strategy to give top management a comprehensive view of the organizational performance units. The framework is said to provide managers with a concise insight into the overall firm and therefore aids them to make informed decisions about objectives and overall performance (Bose & Thomas, 2007).

Rickards (2003), argues that the BSC as a framework for measuring performance has several key advantages; first, it enables including various management principles into a single framework. Second, the framework expands the conceptualization of

performance beyond the analysis of historical financial data and enables managers to direct attention to the variables that affect business success at all levels of the firm. Third, the framework facilitates comparisons of performance between firms and the different organizational units within the firm.

According to Bisbe and Barrubés (2012), the BSC arms management with a flexible performance management tool that enables them to interpret, negotiate, modify, combine, and configure existing routines to suit local conditions. The framework is criticized for providing too many metrics without showing how they relate with each other and how they contribute to the bottom line (Sundin, Granlund, & Brown, 2010). The BSC framework is relevant for this study as it is a useful mechanism for developing and selecting relevant Performance indicators. The BSC framework was used in this study to inform the dependent variable.

2.2.8 Summary of Theoretical Framework

A summary of the theories underlying this study is shown in Table 2: 1.

Table 2. 1 Theories Underlying the Study.

Theory	Proponents	Variables
Dynamic Capabilities Theory	Teece & Pisano (1994); Teece, Pisano & Shuen (1997)	Adaptive Capability, Marketing Capability, Alliancing Capability & Managerial Capability *(independent Variables)*
The Theory of Optimal Firm Size	Robinson (1931)	Firm size *(Moderating Variable)*
The Competence-Based Theory of the Firm	Selznick (1957)	Firm Competence *(Mediating Variable)*
Upper Echelons Theory	Hambrick & Mason (1984)	Managerial Capability *(Independent Variable)*
Resource-Based View	Penrose (1959), Wernerfelt (1984), Barney (1991), Peteraf (1993), Mata, Fuerst, and Barney (1995)	Adaptive Capability, Marketing Capability, Alliancing Capability & Managerial Capability *(independent Variables)*
The Stakeholder Theory	Freeman, (1984), Clarkson (1995), Donaldson & Preston (1995), Mitchell et al. (1997), Rowley (1997), Freeman (1997)	Firm Performance *(Dependent Variable)*
Balanced Scorecard Framework	Kaplan and Norton (1992, 1996)	Firm Performance *(Dependent Variable)*

Source: Author (2020)

2.3 Empirical Review

This empirical review seeks to ground the study on past empirical research on the study variable. The review covered empirical studies on adaptive capability marketing capability, alliancing capability, managerial capability, firm size, firm competence, and organizational performance.

2.3.1 Adaptive Capability and Performance

Wei and Lau (2010) investigated the role of High-performance work systems (HPWS) and the performance of Chinese firms. A sample of 600 firms was randomly selected from all firms registered with the local governments in China, representing all the industries in each city or province. Respondents were identified using a stratified sampling technique. Data were collected using structured questionnaires and surveys face-to-face interviews with senior managers of the selected firms. The data were analyzed using a linear regression technique.

Empirical results showed that firm-level adaptive capability partially mediates the relationship between HR-fit and innovation and fully mediates the relationship between HR-fit and ROA. The study also found that location moderated the relationship between adaptive capability and performance. The main limitation of the study was that it did not consider the non-financial performance of the firms under study. The main contribution of this study presented a model that helped to explain one of the mechanisms underlying the linkage between HPWS and performance by looking at firm-level capabilities.

A study was conducted by Cabral (2014) to test whether differences adaptive capability is related to the performance of firms in Brazil. The study used a content analysis of literature instead of primary information collected directly from firms in Brazil. The results of data analysis using multiple linear regression showed that the effect of adaptive capabilities Performance is mediated by innovation strategy. The significance of the study was that it confirmed the view held by (Eisenhardt & Martin 2000) that adaptive capabilities affect performance indirectly. The main limitation was that it did not consider non-financial indicators of performance.

Another study by Kaehler, Busatto, Grace, Hansen, and Santos (2014) examined the relationship between strategic orientation and adaptive capabilities and as drivers for firm Performance. The data was collected using a structured questionnaire administered on 106randomly selected employees drawn from a maritime company in Brazil. The results of multiple regression analyses showed that the strategic orientation of entrepreneurs influence the effect of adaptive capabilities on firm performance. The study provided a new understanding of how adaptive capability drives performance. The main limitation of the study was that it was done on only one case company and may, therefore, suffer the inability to be generalized among other companies operating in different industries.

Eshima and Anderson (2016) studied the relationship between firm growth, adaptive capability, and Performance. Data was collected from a sample of 600 respondents randomly drawn from a population of 11,248 senior executives of Korean SMEs and

another sample of 134 respondents drawn from a population of 6000 firms in the United Kingdom. The data were analyzed using structural equation modelling.

The study showed that increased adaptive capability leads to the expansion of entrepreneurial activity. It further showed that during its growth, a firm acquires new resources and new knowledge on how to configure those resources, which in turn leads to the development of adaptive capabilities that enable it to uncover new opportunities for increasing performance. The study demonstrated that adaptive capabilities influence entrepreneurial action, which in turn influences firm performance. The main limitation of the study was that although it used data from two similar locations, it cannot be ruled that different results could have been obtained if the study involved other geographical locations.

Chryssochoidis, Dousios, and Tzokas (2016) investigated how adaptive capability alters the relationship between small firm competitive strategy and performance outcomes of small firms. Data was collected from a sample of 250 small firms randomly selected from a population of 748 firms in Greece using structured questionnaires. The questionnaires were administered on the CEOs of the selected firms and analyzed using Exploratory Structural Equation Modelling (ESEM) technique. The results of the analysis supported the notion that adaptive capability mediates the influence of competitive strategy on performance outcomes supporting the view held by (Danneels, 2012). The study also showed that adaptive capabilities moderate the relationship between competitive strategy and firm performance. The main limitation of the study was that it used only financial/sales turnover-related

performance indicators of performance, leaving out non-financial indicators of performance. The study contributes to the ongoing debate on dynamic capabilities by highlighting the importance of adaptive capability on superior performance.

Ali, Sun, and Ali (2017) investigated the effect of adaptive capability on the Performance of SMEs. Primary data was gathered using structured questionnaires administered on 210 SMEs in Pakistan. The study operationalized adaptive capability in terms of change management, horizon scanning, and resilience. The study used partial least squares structural equation modeling (PLS-SEM) to test the model hypotheses. The results of data analysis showed a positive relationship between adaptive capability and firm performance. The study also showed that adaptive capability mediates the relationship between managerial capability and firm performance. This study concluded that adaptive capability improves the performance of SMEs. These results provide valuable information for managers on how adaptive capability impacts firm Performance. Nearly all the studies reviewed were conducted in Europe and Asia, and it is possible that if they were conducted in different geographic locations with different business environments such as Kenya in the results could have been different. According to Zahra *et al.* (2006), literature on adaptive capabilities and their role in performance is inconsistent. Most of the studies reviewed showed competing effects of adaptive capabilities on Performance with some studies showing a direct relationship, others showing mediation while others showed moderating effect; thus the direct effect of adaptive capability on performance has not been thoroughly investigated.

2.3.2 Marketing Capability and Performance

Morgan, Vorhies, and Mason (2009) conducted a study to examine the effect of marketing capabilities on firm Performance. The study collected primary data using questionnaires administered via a mail survey on 748 U.S firms. Marketing capability was operationalized in terms of product development, pricing, channel management, marketing communications, selling, market planning, and marketing implementation, while performance was operationalized in terms of profitability and market share. The study used structural equation modelling (SEM) technique to analyze the data. The findings indicated that market orientation and marketing capabilities are complementary assets that directly contribute to firm performance. The main limitation of the study was that study used data collected from the USA, a cultural setting which the researchers argued led to a more robust market orientation-firm performance relationship.

Afzal (2009) attempted to demonstrate the effect of marketing capabilities on corporate performance. Data were collected from a sample of 89 firms in Pakistan using a administered mail survey technique. Performance was operationalized in terms of profitability, operational performance, sales and market share growth, and customer satisfaction. Marketing capability was operationalized in terms of market research, pricing product development, promotion management, and marketing management capabilities. Linear regression technique was used to analyze the data and test the hypothesis. The results of the study showed that there is a significant relationship between marketing capabilities and firm performance and that the relationship moderated by marketing practice. The study concludes that firms should

tailor their marketing capability and strategy behaviour to complement the requirements of their business performance. A study by Morgan, Slotegraaf, and Vorhies (2009) set out to examine how market capabilities are linked to a firm's profit growth. The survey was conducted on publicly traded, U.S. companies in seven industries: computer hardware, computer software, electronic equipment, specialty retail, pharmaceuticals, consumer packaged goods, and business services. Primary data was collected from 507 targeted CEOs using a structured questionnaire.

The study operationalized marketing capabilities in terms of market sensing, customer relations management, and brand management. Profit growth was operationalized in terms of revenue growth and profit margin growth. Marketing capability was operationalized in terms of customer relations management, brand management, and market sensing. The study used the Seemingly Unrelated Regression (SUR) technique to test the hypothesis. The study found that while customer relationship management, and brand management capabilities have a direct effect on revenue growth and profit margins market sensing capabilities have no direct effect on margin growth rate. The study concludes that market capabilities drive firm performance.

Another study by Azizi, Movahed, and Khah (2009) investigated the relationship between marketing capability and three types of performance: overall, financial, and non-financial performance. A structured questionnaire was administered on a sample of randomly selected 50 large, well-reputed companies involved in Iran’s medical equipment industry to collect primary data. Multiple regression technique was used to

analyze the data. The findings of the study showed that marketing capability has a positive and significant effect on overall, financial, and non-financial performance. The study contributes to the knowledge on how dynamic capabilities affect firm performance. The main limitation of the study was that it did not consider the effect of regulatory environment since the pharmaceutical industry is highly regulated. It is possible that different findings would have emerged if the study were done among firms operating in a less regulated industry.

Vijande, Pérez, Gutiérrez, and Rodríguez (2012) conducted a study to analyze the organizational antecedents of marketing capabilities and their impact on the business performance of SMEs in Spain. Questionnaires were sent to CEOs of 1900 firms listed in the Sistema de Análisis de Balances Ibéricos (SABI) database. The firms were purposely selected based on their operating in industrial sectors characterized by intense innovation. The respondents were identified a priori as key informants because they were likely to be fully knowledgeable about their firms. The questionnaires were dispatched through the mail but only 163 valid questionnaires were returned thus achieving a response rate of 8.75%.

Results of data analysis using multiple regression showed that marketing capabilities mediate the effect of customer satisfaction on firm performance. The study observed that Marketing capabilities have a significant and positive effect on clients' satisfaction and loyalty, and this leads to better organizational performance. One limitation of the study was that it used subjective measures of financial performance,

due to the reluctance of firms to supply empirical data on sales, market share, and profits.

There is no consensus among researchers as to how marketing capabilities influence firm performance. Some researchers like Afzal (2009) argue that marketing capabilities have a moderating effect while others like Morgan, Vorhies, and Mason (2009) argue that they have a direct effect. Further, most studies on the effect of marketing capabilities on performance were done in European and American context and the findings might be different of the studies were conducted in Kenya. Furthermore, other studies like (Vijande, Pérez, Gutiérrez & Rodríguez (2012) used subjective measures of financial results because firms were unwilling to provide empirical data on sales, market share, and profits.

2.3.3 Alliancing Capability and Performance

Rotharmel and Deeds (2006) investigated the effect of alliance capability on the performance of high-technology ventures. Secondary data was extracted from 325 global biotechnology firms listed in the 1997 Bioscan directory. Multiple regression technique was used to analyze the data. The results of the study showed that a firm's performance is positively correlated to its alliance management capability. The study further observed that transaction costs increase as firms join more alliances, up to a point beyond which the costs outweigh the gains from additional alliances. One of the limitations of the study was that it left out some measures of alliance management capability such as new partner identification capability, and capability to use the knowledge that has been shared in alliances.

Schreiner, Kale, and Corsten (2009) investigated the effect of alliance capability on performance of using survey and secondary data from German and Swiss software service providers. Out of the 1,710 questionnaires send through mail, 250 were received. Data were analyzed using multiple regression analysis technique. The findings were that firms expand their performance by leveraging knowledge transfer between partners in an alliance. This research contributed to the dynamic capability perspective by showing that firms can enhance their performance through alliance management.

Phapruke, Intakhan, and Nantana (2010) examined the effect of alliance capability on performance. Alliance capability was operationalized in terms of business excellence and performance was operationalized in terms of firm growth. Data was collected using a questionnaire administered on a sample of 812 SMEs in Thailand. Data were analyzed using multiple regression techniques. The study used Baron and Kenny (1986) model to test for mediation.

The results showed that alliance capability mediates the relationship between knowledge transfer achieved through alliances and performance. It also found that knowledge transfers, in turn, impacts performance through innovation. Ziggers and Tjemkes (2010) examined the relationship between alliance capability and performance. The study used a mail survey to collect primary data. Structured questionnaires were sent to 248 Dutch alliance managers responsible for alliances in non-equity alliances in the agribusiness and food industry. Only 84 questionnaires were returned thus translating to a response rate of 33.3%.

Empirical results indicated that the relation between alliance capability and alliance p erformance is mediated by both alliance management and relational quality. The findings suggest that firms deploying alliance capabilities gain more from alliances than those which do not.

Kaupilla (2013), investigated the effect of alliance management capability on performance using the RBV framework. The study operationalized alliance management in terms of co-exploration and co-exploitation. Primary data was collected from a sample of 172 Finnish companies using a questionnaire and analyzed using multiple regression techniques. The study found that alliance management capability mediates the relationship between co-exploration and firm performance. It also found that the relationship between alliance management capability and co-exploitation is U-shaped. The study posits that co-exploitation directly affects a firms' short-term financial performance while long-run firm growth is driven by co-exploration.

Studies like Rotharmel and Deeds (2006) focused only on the number of alliances managed leaving out other aspects such as new partner identification capability, ability to apply new knowledge gained, and ability to develop alliance routine. Moreover, none of the studies reviewed explored the direct relationship between alliance capability and firm performance. Furthermore, a few conclusive studies are focusing on alliancing capability and performance of food manufacturing firms in Kenya. Therefore, an investigation on this relationship in Kenya may help in confirming the conclusions of previous studies done elsewhere.

2.3.4 Managerial Capability and Performance

Acquaah (2007) examined the relationship between managerial capability and performance. Managerial capability was operationalized in terms of social networking and firm-specific experience. Performance was operationalized in terms of ROA. Primary data was collected from senior executives of selected from 106 firms listed in the 2001 edition of the Ghana Business Directory using a questionnaire. The results of data analysis using multiple regression techniques suggested that managerial social capital developed through social relationships enhance firm performance. One limitation of the study was that it did not consider non-financial performance.

Bellner and MacLean (2015) set out to investigate how managers use managerial capabilities managers to create competitive advantage during periods of environmental change. The study took a multi-case study approach. Five firms were identified using a purposeful sampling technique. Questionnaires were sent to the CEOs of the selected through email. Data were analyzed using content analysis technique. The results show that the more successful managers were those engaging in participative leadership and employ innovation-based capabilities during periods of external environmental change. These capabilities impact other dynamic capabilities toward achieving advantage. The study concluded that managerial capabilities are transformational and integral to entrepreneurial management and they generate superior performance. One main limitation of the study was the use of purposive sampling which is usually criticized as being prone to bias.

Kabongo and Boiral (2017) studied the effect of managerial capability on the performance of eco-efficient firms. Primary data was collected from managers of 12 firms involved in the processing of waste materials in Canada using questionnaires and interviews. The findings of multiple regression showed that the performance of eco-efficient firms largely depends on the application of managerial capabilities in coordination of competencies, innovation, and technological development. It also depends on adjustments in human resource management, networking, and marketing. This study contributed to existing literature on dynamic capabilities by offering additional insights on the role played by management capability in the success of firms.

Kwalanda, Mukanzi and Onyango (2017) assessed the impact of managerial capabilities on the firm performance. Primary data was collected using questionnaires administered on randomly selected 108 employees of sugar companies operating in western Kenya. The results of data analysis using multiple regression showed that there is a significant correlation between relational capabilities and performance of firms in the sugar industry in western Kenya. The study observed that cooperative relationships enable firms to acquire important resources, gain access to new markets, which in turn helps them to improve performance.

Ahmad (2017) conducted a perception survey to investigate the effect of managerial capabilities on the performance of 127 firms in Pakistan. Primary data was collected using a structured questionnaire. The study found that firms that invest in the development of managerial capabilities realize better performance. It also found that

small firms do not a framework for the development of managerial capability and this negatively affects firm performance. The study concluded that organizations that focus on the development of managerial capabilities are more likely to achieve high performance and have a competitive advantage.

Some of the studies like Acquaah, (2007) and Ali, Sun& Ali 2017) were conducted among enterprises in one geographical setting and this limited its generalization to countries with a different cultural setting. One of the studies; Ensley and Pearce (2001) used a complex model, and this might have been the reason why the relationship between the study variables was not detectable. Kabongo and Boiral (2017) used a small sample and therefore it may not be possible to generalize the findings.

2.3.5 Firm Competence and Firm Performance

Nguyen (2008) studied the relationship between functional competence and firm performance. The target population of the study was 4114 manufacturing firms identified through a website published by the Vietnam Chamber of Commerce and Industry. Primary data were collected from 125 managers using a questionnaire administered through the mail. Analysis of data using simple regression found that manufacturing firms that emphasize marketing, human resources, and R&D competences earn higher performance. The findings also showed that functional competence does not have a significant effect on market performance.

An empirical survey was conducted by Dubey and Ali (2011) to understand how functional competence affects firm performance. Functional competence was

operationalized in terms of manufacturing competence. Financial and non-financial metrics were used to measure firm performance. The study used data collected from 450 manufacturing firms listed by the Confederation of Indian Industries using a mail survey. The data was analyzed using simple regression analysis. The study found that functional competence has no significant impact on firm performance. One limitation of the study was that it ignored the effect of important competence such as finance and planning. These results contradicted previous studies which had found that functional competence positively affects firm performance. One limitation of this study was that it used perceptual rather than objective measures of performance.

Protogerou, Caloghirou, and Lioukas (2011) investigated the effect of dynamic capabilities on firm performance. The study particularly addressed the question of whether dynamic capabilities affected performance directly or indirectly. Data was collected from a sample of 271 firms drawn from a population of 1400 Greek firms belonging to various manufacturing industries, such as food and beverage industries, printing and publishing, chemical industries, industrial machinery, and equipment. The data was collected using questioners administered on CEOS as key informants. Structural equation modelling was employed to explore the relationships between dynamic capabilities, functional competences, and firm performance.

Empirical findings of the study suggested that dynamic capabilities are antecedents to functional competencies which in turn have a significant effect on performance. The study also found that the direct effect of dynamic capability on performance is insignificant. The study concluded that functional competences mediate the effect of

dynamic capabilities on performance. The results thus confirmed the contention by (Winter, 2003) that dynamic capabilities influence firm Performance through functional competences. The limitation of the study was that it used self-reported data thus it had the potential of survey biases and therefore the findings may not coincide with objective reality.

A Study by Agha, Alrubaiee and Jamhour (2012) investigated the relationship between firm competence and firm performance. Core competence was operationalized in terms of shared vision, cooperation, and employee empowerment. Performance was operationalized in terms of competitive advantage measured tern's flexibility and responsiveness. Primary data was collected through an electronic survey administered on 77 managers of firms in the UAE paint industry. The study found that Firm Competence positively affects firm performance. The study concluded that to remain competitive, managers should increase firm performance by creating core competences.

Massoud (2013) investigated the impact of functional competence on firm performance. The survey used data collected from 62 managers of 17 companies manufacturing pharmaceuticals in Jordan using structured questionnaires. The study applied descriptive statistics, simple regression, and multiple regression procedures to test the hypothesis. The findings showed that functional competence has a significant effect on firm performance. The results also showed that production competence and marketing competence have an impact on performance. Further results showed that the IT system and human resource competencies do not have any effect on firm

performance. One limitation of the study was that it ignored moderating variables such as management style and company size.

A study by Jabbouri and Zahar (2014) studied the effect of core competences on firm performance. The study collected primary data using a self-reported questionnaire administered on 200 managers in 10 private banks in Iraq. The results of data analysis showed a strong correlation between core competencies and firm performance. The value of this study was that it highlighted the importance of core competence in improving organizational performance.

Another study by Rehman and Saeed (2015) investigated the effect of dynamic capabilities on firm performance and the moderating effect of firm competencies on the correlation between dynamic capabilities and performance. Firm Competence was operationalized in terms of marketing capabilities and technical competences. The study categorized dynamic capabilities in terms of sensing capabilities, coordinating capabilities, learning capabilities, and integrating capabilities. Financial and non-financial measures were used to measure performance. Primary data was collected through questionnaires administered on 104 professionals working in the Pakistani paper sector. The data was analyzed using multiple regression analysis. The findings of the study suggested that firm competencies have a moderating effect on the relationship between dynamic capabilities and firm performance. The finding also suggested that dynamic capabilities have no significant effect on performance Broadly, evidence supporting the relationship between firm competence and organizational performance is mixed in terms of the significance of the relationship.

Also, most studies were done in the context of developed countries. Studies on the mediating effect of firm competence on the relationship between dynamic capabilities and performance of food manufacturing firms in Kenya are rare. Moreover, most studies on this relationship have considered only financial performance.

2.3.6 Firm Size and Firm Performance

A study by Dogan (2013) evaluated the effect of Firm Size on the profitability of Turkish firms during the period 2008-2011. Secondary data obtained on 200 companies was obtained from the Istanbul Stock Exchange and analyzed using a multiple regression model. ROA was used as an indicator of firm profitability. Firm Size was operationalized in terms of total sales, total assets, and the number of employees. The results of data analysis showed that there is a positive correlation between Firm Size and firm profitability. The main limitation of this study was that it used only one (ROA) indicator of financial performance and therefore the results may not be reliably generalized to all indicators of firm performance.

Niresh and Velnampy (2014) conducted a study to investigate the effect of Firm Size on performance. Performance was operationalized in terms of ROA and Net Profit whereas Firm Size was operationalized in terms of total sales and total assets. Secondary data was collected from a sample of 15 companies listed in the Colombo Stock Exchange between 2008 and 2012. Data was analyzed using multiple regression. The results of the analysis showed that no relationship exists between Firm Size and profitability of manufacturing firms. The main limitation of the study was that it measured only financial performance and left out non-financial aspects of

performance. The contribution of this study was that it brought out a new perspective that challenged previous studies which had found that Firm Size affects firm profitability.

Abbasi and Malik (2015) investigated the effect of Firm Size, firm growth, and firm performance. The study used secondary data collected on 50 non-financial firms listed in the Karachi Stock Exchange and analyzed using multiple regression. The results of data analysis showed that Firm Size mediates the effect of firm growth on its performance. The study operationalized Firm Size in terms of sales volumes and firm growth in terms of growth in total assets while performance was operationalized in terms of ROA. Results of multiple regression analysis showed that the effect of firm growth on performance is moderated by Firm Size. The study also found the relationship between Firm Size and firm growth is not significant. A main limitation of the study was that it did not consider non-financial aspects of performance. The study contributes to strategic management by showing how Firm Size interacts with firm growth to influence firm performance.

Kuncová, Hedija and Fiala (2016) conducted a study to investigate the effect of Firm Size on firm economic performance. Secondary data extracted from the Czech Republic Business Register and analyzed using multiple regression. Economic performance was operationalized in terms of profitability ratio, labour productivity, and operating ratio. Firm Size was operationalized in terms of total sales and total assets. The results of the analysis showed that larger firms achieve higher economic performance than smaller firms. A main limitation of the study was that it measured

only economic performance. The study contributes to the understanding of how firm size contributes to business success.

A study by Luqman, (2017) investigated the effect of firm size on the performance of 12 non-financial Nigeria firms between 2005 and 2013. Firm size was operationalized as total assets and total sales while Performance was operationalized in terms of ROE. The study used secondary data obtained from audited annual reports of the selected firms. Data were analyzed using a random-effects regression model. The study found a negative correlation between total assets and a positive correlation between total sales and performance. The conclusion of the study was that firm size determines firm performance. One limitation of this study was that it used secondary data. This kind of data is subject to bias because data may not have been collected for research purposes and may have been tailored to serve only the purpose for which it was collected.

All the studies on firm size reviewed for this study used secondary data obtained from audit reports obtained from the national stock exchange. Secondary data is collected for purposes other than research and may have biases that address the purpose for which the data was collected earlier studies on the effect of firm size on firm performance offer inconclusive finding with some showing profound effect while others show no effect. Furthermore, none of the studies reviewed investigated how firm size mediates the correlation between dynamic capabilities and firm performance of food manufacturing firms.

Table 2. 2 Summary of Empirical Studies and Research Gaps

Author	Focus of the Study	Findings	Research Gaps	Focus of this study
Carla and Mshenga. (2008)	The Role of Firm Size and Owner Characteristics on the performance	Firm age business and the farm size have a positive impact on performance.	The study focused only on financial performance	This study considered non-financial performance to study the mediating effect of firm size on the effect of dynamic capabilities on performance
Afzal (2009)	Effect of marketing capability on corporate performance	There is a significant relationship between marketing capability and business performance	The study did not measure non-financial performance	This study used the TBL approach to identify indicators of performance.
Morgan, Vorhies, and Mason (2009)	Effect of marketing capabilities on Firm Performance	Marketing Capabilities and market orientation are complementary assets that directly contribute to performance	Data was collected in the USA, a cultural setting which led to a stronger market orientation/performance relationship	The current study was conducted in Kenya to ensure generalization of findings in developed countries.
Morgan, Slotegraaf and Vorhies (2009)	How marketing capabilities are linked with firms' profit growth.	Customer relationship management and brand management have a direct relationship on revenue	The study did not measure non-financial performance	This study considered both financial and non-financial measures of performance.

Author	Focus of the Study	Findings	Research Gaps	Focus of this study
Azizi, Movahed, and Khah (2009)	Relationship between marketing capability and performance	Marketing capability has a positive and significant effect on overall, financial, and non-financial performance	The study used subjective measures of financial performance	This study used quantitative measures of financial performance
Schreiner, Kale, and Corsten (2009)	Effect of alliance capability on performance	Firms expand their performance by leveraging on knowledge transfer gained through alliances	The research was done in Germany and Switzerland. A setting that may be different from Kenya	The current study was done in Kenya, a third world setting.
Phapruke, Intakhan, and Nantana (2010)	Effects of Knowledge transfer and alliance experience on performance	Knowledge transfer achieved through alliances has a positive effect on performance.	The study omitted partner identification as an important indicator of alliancing	This study incorporated Partner identification capability as an indicator of Alliancing capability
Wei and Lau (2010)	The role of high-performance work Systems on performance	Firm-level adaptive capability partially mediates the relationship between HR fit and ROA	The study omitted non-financial indicators of performance	This study incorporated non-financial indicators of performance
Ziggers and Tjemkes (2010)	The relationship between alliance capability and performance	The relationship between alliance capability and performance is mediated by the relational quality	The study was based on a literature review thus the data collection approach taken by the study may cause concerns for biases	This study used triangulation to validate data and to avoid biases that may come with a single method of data collection.

Author	Focus of the Study	Findings	Research Gaps	Focus of this study
Dubey and Ali (2011)	How functional competence affects firm performance.	Functional competence has no significant effect on fir performance	The study ignored the effect of other important competencies such as finance and planning	This study considered foundational, technologic, and functional competencies
Protogerou, Caloghirou, and Lioukas (2011)	Effect of functional competence on firm performance	Impact of dynamic capabilities on performance is mediated by functional competences	The study used self-reported data hence the possibility of introduction of bias.	Secondary data was also used to supplement information collected through questionnaire
Vijande, Pérez, Gutiérrez, and Rodríguez (2012)	Effect of Marketing Capabilities on performance	Marketing capabilities have a significant and positive effect on clients' satisfaction and loyalty, which in turn lead to better financial performance	The study used subjective measures of financial results because firms were reluctant to supply quantitative data on sales, market share, and profits.	The study collected data from Medium and large firms likely to be keeping financial performance data
Agha, Alrubaiee, and Jamhour (2012)	Relationship between firm competence and performance	Firm Competence positively affects performance	The study omitted non-financial indicators of performance.	This study considered both financial and non-financial indicators of performance.
Kaupilla (2013)	Effect of alliance management capability	Alliance management capability mediates the relationship between co-exploration and firm performance.	The study focussed on only one dynamic capability thus limiting the explanatory power of the model	The current study focussed on four types of dynamic capabilities commonly found among food manufacturing firms
Talaja (2013)	Effect of adaptive capabilities, competitive advantage on firm	There is a direct effect of adaptive capability on performance	The study was conducted in a Croatian setting and possibly the results cannot be	The study was conducted in Kenya to test the extent to which adaptive capabilities affect the performance

Author	Focus of the Study	Findings	Research Gaps	Focus of this study
	performance		generalized to a different economic context.	of Kenyan firms
Doğan, (2013)	Effect of Firm Size on Profitability	There is a positive correlation between Firm Size and firm profitability.	The study did not consider variables that may moderate or mediate the relationship between firm size and performance	This study considered the mediating effect of firm competence and firm size on the relationship between dynamic capabilities and performance.
Cabral (2014)	Whether differences in adaptive capability is related to the performance of firms in Brazil	The effect of adaptive capability on performance is mediated by innovation strategy	The study did not consider non-financial indicators of performance	This study used the TBL approach to identify performance indicators.
Jabbouri, and Zahar, (2014).	The role of core competencies on performance	Core competence mediates the impact of competitive advantage on firm performance.	The study did not measure non-financial performance.	This study considered financial and non-financial performance to study the mediating effect of Firm Competence on the effect of dynamic capabilities on performance
Kaehler, Busatto, Grace, Hansen, and Santos (2014)	The relationship between strategic orientation and adaptive capabilities as drivers of performance	The effect of adaptive capability on firm performance is influenced by the strategic orientation of entrepreneurs	The study was done in only one case company	The current study was done on a large sample.

Author	Focus of the Study	Findings	Research Gaps	Focus of this study
Bellner and Maclean (2015)	How managers use managerial capabilities to create a competitive advantage. During periods of environmental change	The more successful managers are those engaged in participative leadership and employing innovation-based capabilities	The study used a purposive sampling method which is usually criticized as being prone to bias	The current study used a random sampling method
Eshima and Anderson (2016)	The relationship between Firm Growth, adaptive capability, and performance	Increased adaptive capability leads to expansion of entrepreneurial activity which enables a firm to uncover new opportunities for increasing performance.	Data was collected from only two locations and it thus cannot be ruled that different results could have been obtained if the study had been done in a different geographical location.	The current study was done in Nairobi city county where the country headquarters is thus making the selected firms representative of firms from all regions.
Chryssochoidis, Dousios and Tzokas (2016)	Third, the study provides empirical evidence to show that firm size does not significantly moderate the relationship between dynamic capabilities and performance of food manufacturing firms.	Adaptive capabilities moderate the relationship between competitive strategy and firm performance	The study only used financial measures of performance	This study used both financial and nonfinancial indicators of performance.

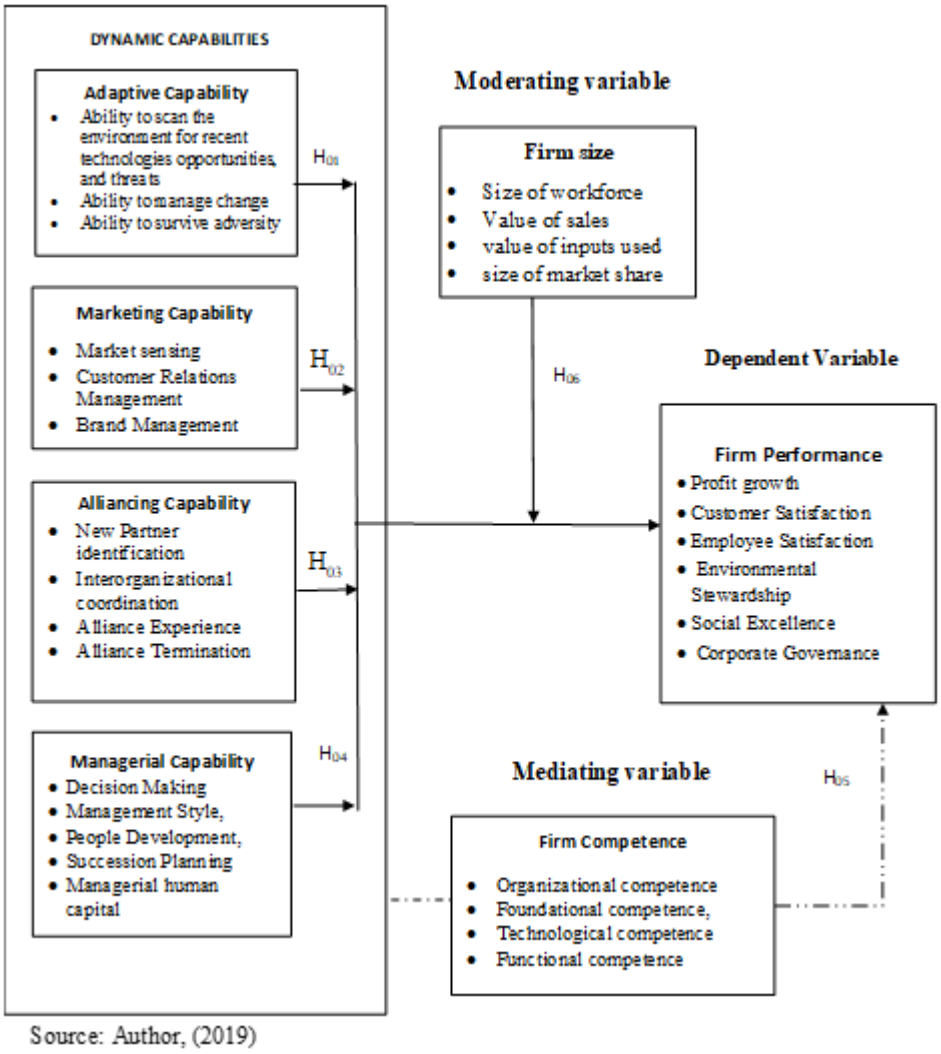
Author	Focus of the Study	Findings	Research Gaps	Focus of this study
Kwalanda, Mukanzi and Onyango (2017)	Impact of managerial capabilities on firm performance	There is a positive and significant relationship between participatory leadership and performance	The study was conducted in only one Agrobusiness sector and as such results may not be generalized to other related subsectors.	This study covered all the subsectors in food manufacturing
Eikelenboom and Jong (2017)	The impact of managerial capability on performance:	Transformational leadership behaviours positively relate to the performance of SMEs	The study suffered from a scarcity of data as many SMEs do not keep proper records.	The current study was conducted on firms which keep financial and non-financial data to address the issue of missing information
Kabongo and Boiral (2017)	Effect of managerial capability on performance.	Performance of eco-efficient firms largely depends upon the application of managerial capabilities	The study used a small sample and therefore it may not be possible to generalize the findings.	This study chose a sample that was representative of the food manufacturing sector.
Ali, Sun, and Ali (2017)	Relationship between Managerial and Adaptive Capabilities and firm performance.	Adaptive capability mediates the effect of managerial capability on the performance of SMEs.	Data was collected in Pakistan and therefore the findings need to be confirmed in another cultural setting.	This study was conducted among a representative sample of food manufacturing firms in Kenya

Source: Author (2020)

2.4 Conceptual Framework.

Based on conceptual and literature review, a conceptual model was designed as shown in Figure 2.1 below

Independent Variable



Source: Author, (2019)

Figure 2. 1 Conceptual Framework

The study proposed a conceptual model where it was hypothesized that dynamic capabilities affect the performance of food manufacturing firms. The model hypothesized that the effect of firm dynamic capabilities on performance is mediated by firm competence and moderated by the firm's size. In this study, dynamic capabilities were categorized into adaptive, marketing, alliancing, and managerial

capabilities. Adaptive capability was operationalized in terms of horizon scanning, change management, and resilience. Marketing capability was operationalized in terms of market sensing, customer relations, and brand management. Alliancing capability was operationalized in terms of membership in industry associations, partnership with industry peers and sharing information with contemporaries. Managerial capability was operationalized in terms of decision-making, management style, people development, and succession planning.

Firm Competence, the mediating variable was operationalized in terms of foundational competence, technological competence, and functional competence. Firm size, the moderating variable was operationalized in terms of the number of employees, value of sales, value of inputs used, and size of market share. Performance, the dependent variable, was operationalized in terms of financial performance, non-financial performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section discusses the research methodology used in the study, particularly the research philosophy, the research design, population of the study, data collection, validity, and reliability of the instrument data analysis and ethical considerations.

3.2 Research Philosophy

Research philosophy is a belief about how data about a phenomenon should be gathered, analyzed, and used (Olafson & Schraw, 2006). According to Saunders, Lewis, and Thornhill, (2009), all business research philosophies make three major types of assumption: ontological (the nature of the world and reality), epistemological (assumptions about knowledge, what constitutes acceptable, valid and legitimate knowledge) and axiological (the role of values and ethics within the research process). Research philosophies can be differentiated in terms of the nature of their assumptions, objectivism, or subjectivism.

According to Saunders (2009), objectivism embraces realist ontology which holds that social entities exist independently from social actors. Epistemology in objectivism focuses on the discovery of truth using observable, measurable facts. Subjectivism embraces nominalist ontology which holds that social phenomena are created through language, perceptions, and consequent actions of social actors. Its epistemology focuses on the social actors' perception that conveys social realities (Saunders, 2009). According to Saunders, Lewis & Thornhill (2009), business

research comprises five main philosophies: positivism, critical realism, interpretivism, postmodernism, and pragmatism.

Positivism relates to the philosophical stance of the natural scientist and entails working with an observable social reality to produce law-like generalizations (Easterby-Smith, Thorpe & Jackson, 2008). It focuses on a strict scientific empiricist method designed to yield pure data and facts free of human interpretation or bias. The positivist adopts the stance that the researcher will operate remotely from the social world and that evaluation of phenomena identified will be approached through objective methodologies (Stiles, 2003). Positivism derives a quantitative perspective which holds that there is an objective reality that can be expressed numerically with explanatory and predictive power (Neuman, 2006; Furrer, Thomas & Goussevkaia, 2008). Problem-solving under this approach follows a pattern of formulating hypotheses in which assumptions of social reality are made and hypotheses tested often using quantitative techniques (Stile, 2003).

This study inclined to positivistic view to obtaining an objective view of the relationship between dynamic capabilities, firm size, firm competence, and performance of selected food processing firms in Nairobi County, Kenya. The study involved the formulation of hypothesis which was then be tested using quantitative techniques based on facts obtained from data collected from both primary and secondary sources in a survey of food processing firms in Nairobi County, Kenya. The positivist approach was been chosen for this study because it is said to produce a standard of validity and reliability (Cohen, 2007) and that results can be generalized to the large-scale population (Johnson & Onwuegbuzie, 2004).

3.3 Research Design

Research design is the overall blueprint of the research and shows an outline of what the researcher will do. It involves the formulation of hypotheses, operationalization of the study variables, how data is to be collected and analyzed (Cooper & Schindler, 2008). Research design seeks to provide confidence that the research findings capture reality and have high levels of validity and reliability. Based on the purpose of the study and the philosophical orientation adopted, the study used a descriptive and exploratory design. This approach was chosen to achieve complementarity between the various paradigms and to discover what may not have been discovered if only one approach is used.

Descriptive research is used to obtain information concerning the status of phenomena and to describe "what exists" concerning variables (Saunders 2011). Descriptive studies can yield rich data that lead to important recommendations in practice. Bryman and Bell describe descriptive research design as an organized empirical inquiry where the researcher does not have direct control of the independent variable since its manifestation has already taken place and this reduces the possibility of bias. This design was chosen to help the researcher achieve the research objective by describing the data and characteristics of dynamic capabilities and performance of manufacturing firms.

The explanatory research design looks for explanations on the nature of certain relationships and investigates the cause and effect relationship between variables (Saunders, 2009). This type of study design is associated with greater levels of internal validity due to the systematic selection of subjects. This design was adopted

to help the researcher understand how a change in dynamic capabilities impacts the performance of manufacturing firms in Kenya.

3.4 Target Population

The target population for this study consisted of 70 food manufacturing firms operating in Kenya and listed in the directory of manufacturers published by Kenya. Association of manufacturer's directory as at June 2018 these were targeted as the unit of analysis. KAM is the largest active association of manufacturers in Kenya and its directory was found to be an active source of names and addresses of manufacturers of food in Kenya. It draws its membership from firms involved in manufacturing or value addition. The unit of observation were key persons responsible for finance, human resources, corporate affairs, marketing, and operations who were identified as the respondents.

3.5 Sampling Procedure and Sample Size

This study adopted a stratified proportionate random sampling method to identify an appropriate sample size. The stratified proportionate sampling method is a form of probability and random sampling technique in which the population is divided into two or more groups (strata) according to common attributes and selecting subjects from each stratum in a proportionate manner to achieve equal representation of each group. In the first step, the population of 70 firms was divided into two strata based on the size of the firm. The two strata consisted of 20 medium and 50 large scale firms.

In the second step, a sample size of 59 firms was determined using the formula developed by (Krejcie & Morgan, 1970) for the determination sample size for a finite

population. According to Krejcie and Morgan (1970), the formulae of determining sample size for a finite population is as follows.

$$\frac{s = X^2 NP(1-P)}{d^2 (N-1) + X^2 P(1-P)}.$$

Where.

s = sample size needed.

X^2 = confidence level desired (3.841).

N = population size.

P = the population proportion

d = the degree of accuracy.

It was determined that a sample of 59 Firms would suffice for a population of 70.

In the third step, the sample proportion was determined as follows.

$$\text{Proportion} = \frac{total\ sample\ size}{total\ population}$$

59/70 = 84%

In the next step the number of respondents per category was determined using the proportion of 84% of each stratum as shown in Table 3:1 below:

Table 3. 1 Determination Sample Size

	Large Scale	Medium scale	Total
Number of enterprises	20	50	70
Proportion	84%	84%	84%
Sample size	17	42	59
Key departments per enterprise	5	5	5
Number of respondents in the sample	85	210	295

Source: Author (2020)

Thus, a sample size of 17 from among the 20 largescale firms and a sample size of 42 was selected from the 50 small scale firms. From among all the 59 firms, 5 respondents were chosen from among 5 key departments. The respondents were heads of key functions of finance, human resources, marketing, operations, and corporate relations. This brought a total of 295 respondents. These 295 respondents were considered adequate for this study based on (Cooper & Schindler, 2008) proposition that a sample of at least 30 must exist for generalization to take place. The respondents and the firms were randomly selected to ensure an equal chance of being selected.

3.6 Data Collection

Primary data was collected on dynamic capabilities, firm competence, firm size, and performance indicators using a semi-structured questionnaire (Appendix II). The instrument was adopted from strategic management studies that have studied similar variables with modifications aimed at addressing the specific objectives. Closed-ended questions were constructed on a 5-point Likert Scale to provide structured responses to facilitate quantitative analysis, testing of hypotheses, and drawing of conclusion. However, open-ended questions were used to enable respondents to provide additional information that would not be captured in the closed-ended questions. This method was preferred because of the need to ensure the reliability of responses from the respondents. Secondary data was obtained through a document review of published sources including government publications KAM periodicals and Monthly Economic Review published by KNBS.

The semi-structured questionnaires were administered to senior managers responsible for Finance, Marketing, Human Resources, and Corporate affairs in each of the firms. These functional heads were presumed to be knowledgeable in the areas under study. To enhance the support from the organizations, the researcher presented a letter to each organization assuring them of confidentiality. The questionnaire tool was subjected to a pilot test on managers in five firms to refine the research questions and ensure reliability. The questionnaire was then adjusted based on feedback from the pilot test.

3.6.1 Operationalization and Measurement of Variables

Table 3.2 presents a summary of the operationalized of the study variables.

Table 3. 2 Operationalization and Measurement Variables

Variable	Type	Operationalization	Indicators	Measurement criteria
Adaptive Capability	Independent	Activities relating to: • scanning environment for recent technologies, opportunities, and threats • Change management, • Surviving adversities	• Commitment to gathering information about industry trends • Willingness to change strategies based on horizon scanning information. • Ability to change systems based on the horizon-scanning information. • Ability to change product mix when consumer tastes change. • Willingness to challenge outmoded traditions • The adaptability of the firm to business disruptions • Responsiveness to market threats faster than competitors	Section 2 (Questions 9-11) Likert Scale 1-5
Marketing Capability	Independent	• Activities relating to: • Market sensing • customer relationship management • brand management	• Existence of Budget for market research. • Use of market research to inform new product development • Willingness to review prices in response to market trends • Use of customer satisfaction surveys • Review of products to reflect changes in customer tastes • Programs to create strong customer relationships.	Section 2 (Questions 9-11) Likert Scale 1-5

Variable	Type	Operationalization	Indicators	Measurement criteria
			• Budget support for key brands. • Training of marketing staff on brand management techniques • Existence of procedures to create brand awareness	
Alliancing Capability	Independent	• Activities relating to: • New partner identification • Alliance management. • Alliance experience. • Interorganizational coordination	• Proactively seeking potential partners • Existence of procedures for finding new partners • Dedication of staff to managing alliances. • Existence of budget for alliancing activities • Partnering with peers to lobby for favorable regulatory framework. • Partnering suppliers to stabilize raw material supply. • Membership in industry associations. • Participation in the leadership of industry associations • Sharing of information with industry peers. • Use of information gained from industry associations to inform decisions • Periodical review of alliance portfolio • Procedure for termination of relationships	Section 2 (Questions 9-11) Likert Scale 1-5

Variable	Type	Operationalization	Indicators	Measurement criteria
Managerial Capability	Independent	• Activities relating to: • Management style, • Decision making • People development, • Managerial human capital • Succession planning	• Managerial support for innovative ideas • Programs to build cohesion among managers and staff • Encouragement of employees to innovate new ways of working • Existence of a reward system based on merit • Involvement of employees in decision making • Sponsorship of employee professional training programs. • Existence of managers with functional experience of managers • existence of a procedure for identifying employee gaps • Existence of procedure for developing future leaders • Payment of Managers' membership in social clubs by the firm. • Existence of procedure for identifying skill gaps • Involvement of managers in the leadership of social clubs	Section 2 (Questions 9-11) Likert Scale 1-5
Firm Competence	Mediating	• Competences relating to: • Foundational Competence	• Existence Company code of conduct. • Existence of anti-discrimination policy • Existence of specialized equipment	Section 3 (Questions 12- 13) Likert Scale 1-5

Variable	Type	Operationalization	Indicators	Measurement criteria
		• Technological Competences • Functional Competence	• Existence of non-transferable technical skills and knowhow. • Existence of operational procedure manual • Existence of quality control procedure • Imitability of company brands • Existence of specialized training for employees • Use of computer-based innovations	
Firm Size	Moderating	• Characteristics related to • Size of the Workforce • Value of inputs • Size of Market share • Value of sales	• The number of full-time workers employed. • The annual value of raw material used by the firm • Market share held by the firm • Annual sales turnover of the firm	Section 4 (Questions 14- 15) Likert Scale 1-5
Performance	Dependent	• Activities relating to: • Profit growth • Customer Satisfaction • Employee satisfaction • Environmental Stewardship • Social Excellence • Corporate Governance	• Growth of profits • Growth of sales volumes • Growth of market share • Growth of assets • Speed of reaction to customer complaints • Growth of Brand Reputation • Growth of customer base • Employee motivation • Overall employee satisfaction • Growth in size of the workforce • Expenditure on CSR projects	Section 5 (Questions 15-16) Likert Scale 1-5

Variable	Type	Operationalization	Indicators	Measurement criteria
			• Employment of minorities • Number of social programs • Investment in employee development • Use of recyclable materials • Expenditure on solid waste disposal • Energy-saving initiatives • Board independence • Board review of company policies • Review of board composition	

Source: Author (2020)

3.6.2 Validity of Research Instrument

Validity refers to how accurately the data collected captures what it is purported to measure (Sekaran, 2011). In this study, content validity was ensured by subjecting it to double-check. To ensure that the questionnaire covers all the areas of the study which include dynamic capabilities, firm competence, firm size, and performance. Content validity of the questionnaire items for the four research variables was verified through literature review and expert suggestions to confirm if theoretical dimensions emerge as conceptualized as recommended by (Mugenda & Mugenda 2003). The study was also informed by instruments developed by other related studies. The face validity of research is a post hoc assessment of whether on the face of it, the instrument measures a certain construct (Field, 2013). To check for face validity, expert opinion was sought from supervisors and other faculty members (Creswell, 2003). The feedback from expert advice was used to review the questionnaire to ensure that it had face validity prior to conducting the study.

3.6.3 Reliability of Research Instrument

According to Neumann (2006), there are four common types of reliability in business research: stability reliability, representative reliability, internal consistency, and equivalence. The reliability of the data was tested using Cronbach's Alpha. Cronbach's alpha coefficient rages from 0 to 1. Ehlers (2000), suggests that an alpha level of 0.70 is the threshold for determining reliability.

A pilot study was conducted to establish the extent to which the questionnaire would produce similar and consistent results under similar conditions. The pilot study was conducted among non-food manufacturing firms in the Athi River sub-county, Kenya to ensure that respondents would not participate in the main study. The internal

consistency of the research instruments was measured using Cronbach's Alpha. According to Cooper and Schindler (2003), while a minimum threshold of 0.70 is recommended for exploratory work, a Cronbach's Alpha value above 0.50 is regarded as an indicator of reliability. In this study, the threshold for Cronbach's Alpha of the research instruments was set at α=0.6 where variables with α greater than 0.6 were considered to have internal consistency or reliability.

The overall Cronbach's Alpha as per the pilot study was 0.91. The results of the pilot study showed that Adaptive capability had a Cronbach's Alpha Coefficient of 0.859. Marketing capability had a 0.814, alliancing capability 0.848, managerial capability 0.824, firm competence 0.747, firm size 0.625, and firm performance 0.917. The results indicate that all the variables attained a Cronbach's above the acceptable level of 0.60.

Table 3.3 also shows the reliability of the questionnaire based on the final study.

Table 3. 3 Summary of Reliability Statistics

		Cronbach's Alpha		
Variable	No of Items	Pilot	Main Study	Remarks
Adaptive Capability	190	0.859	0.819	Both are Reliable
Marketing Capability	190	0.814	0.825	Both are Reliable
Alliancing Capability	190	0.848	0.847	Both are Reliable
Managerial Capability	190	0.824	0.816	Both are Reliable
Firm Competence	190	0.787	0.828	Both are Reliable
Firm Size	190	0.625	0.877	Both are Reliable
Firm Performance	190	0.917	0.832	Both are Reliable
Overall	190	0.951	0.857	Both are Reliable

Source: Survey Data, (2020)

The results of the reliability analysis showed that the questionnaire had an overall Cronbach's Alpha Coefficient of 0.857 Adaptive capability had an Alpha Coefficient of 0.819, marketing capability had 0.825, alliance capability 0.847, managerial

capability 0.816, firm competence 0.828, firm size 0.877 and firm performance 0.832. It was noted that there was a slight difference between the results of the final study and that if the pilot study attributed to the difference in the size of sample data used in the analysis. The results show that the questionnaire had an overall Cronbach's Alpha of 0.826 which was found to be suitable for this study. Based on the recommendations of (Field, 2009), and the threshold set for the study, the research questionnaire was found to be reliable.

3.6.4 Data Collection Procedure

Before data collection, a letter of introduction was obtained from Kenyatta University. This was followed by obtaining an approval letter from NACOSTI. Questionnaires were distributed to the head of the corporate affairs department for further distribution to other functional heads of the enterprise. The filled responses were picked after one week from the concerned officials. The data was thereafter being sorted and coded.

3.7 Data Analysis and Presentation

Descriptive statistics were used to get an understanding of the basic characteristics of data collected on variables under study. Summaries of descriptive statistics were presented in tables and frequency graphs and charts. The study used inferential statistics to test the nature of the relationships between the variables. This study applied Pearson's Product Moment Correlation Coefficient (r), as suggested by (Glessne, 2015). The results of this analysis were presented in a correlation matrix showing the strength and nature of relationships between the study variables

A composite index was generated for each of the dependent variables according to the following formula adapted for this study from Kilika (2012)

$$CI = \frac{1}{n}\Sigma x_i w_i$$

Where

CI = the composite index for each of the variables.

n = Number of respondents to the respective section of the questionnaire

$x_{i\,=}$ Number of components making up the specific variable

$w_{i\,=}$ the relative weight of each component in a variable

Multiple regression analysis was used to test the hypothesis of the study. Before undertaking regression analysis, diagnostic tests were conducted to test for compliance with the assumptions of linear regression.

3.8 Empirical Model

To test for direct relationship between dynamic capabilities and performance was tested using multiple regression analysis. Objectives one through four were addressed using model 3.1 below

$Y=\beta_0+\beta_1 AC+ \beta_2 MC+ \beta_3 LC+ \beta_4 GC_+ \varepsilon$ ……. (3:1)

Where:

Y= Performance (Dependent Variable)

β_i = Beta coefficients ($_{i = 0, 1,2,3,4}$)

AC= Adaptive Capability

MC= Marketing Capability

LC= Alliancing Capability

GC= Managerial Capability

ε = Error term

The coefficients measured the effect of the independent variables (AC, MC, LC, GC) on the dependent variable Y. The significance of β's was used to test the corresponding hypotheses $H_0$1, $H_0$2, $H_0$3, and $H_0$4 specified in chapter one.

The fifth objective was to test the mediating effect of Firm Competence on the relationship between dynamic capabilities and performance. The major approaches for testing for mediation are the causal steps (Baron & Kenny, 1986), the difference in coefficients (Hayes 2009), and the product of coefficients (MacKinnon, 2000). The causal steps approach is the most widely used method to assess mediation. According to MacKinnon and Fairchild, (2009) one limitation of the causal steps approach is that it has does not test the strength of the indirect effect. To test for mediation of firm competence on the relationship between dynamic capabilities and performance of Food Manufacturing firms in Kenya, this study used the single mediation model recommended by (MacKinnon & Fairchild,2009, Hayes 2004; Preacher & Hayes, 2008).

In the first step, dynamic capabilities were regressed on performance to test if there was a relationship that can be mediated.

$Y= i_1+cX+e_1$ (1)

In the second step, dynamic capabilities regressed on performance after introducing the mediating variable

$Y=i_2+ćX+bM+e_2$ (2)

In the last step, dynamic capabilities were regressed on firm competence to estimate the relationship between the two.

$M= i_3+aX+e_3$ (3)

In these models:

X = the composite index for independent variable (dynamic capabilities),

Y = composite index for performance (dependent variable), and

M = composite index for firm competence (mediating variable).

i, i_2, i_3= intercepts.

e_1, e_2, e_3 = residuals.

c = coefficient representing *the* total effect of X on Y 1 Competence, being the direct effect the effect of dynamic capabilities on the performance that is adjusted for firm competence,

b= the relationship between firm competence and performance adjusted for dynamic capabilities.

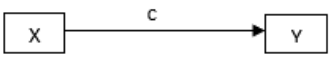
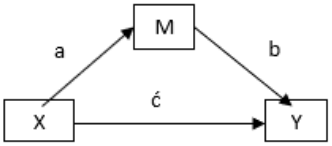
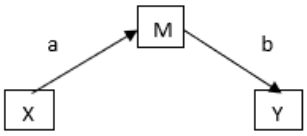
a= the relationship between dynamic capabilities and firm competence.

According to MacKinnon, (2011) firm competence is a mediator if:

First, dynamic capabilities significantly account for the change in firm competence. Second, dynamic capabilities significantly account for the change in performance. Third, firm competence significantly accounts for the change in performance when controlling for dynamic capabilities. Fourth, the effect of dynamic capabilities on performance decreases significantly when firm competence is introduced to the module predicting dynamic capabilities from performance.

According to MacKinnon (2008), the Assumptions for mediation are that first, all variables are assumed to be measured on a continuous scale. Second, all variables follow a normal distribution. Third, there is no correlation among errors and fourth, relationships among the variables are linear. To interpret the results, this study used

the 3 model criteria suggested by Weise, Figueredo, Garcia, Baca, and Gable (2013) as shown in Fig 3.1 below

	MODEL	OUTCOME	CONCLUSION
1		c=ć a &/or b =0	No Mediation
2		c=ć + (a.b)	Partial Mediation
3		c= (a.b) ć=0	Full mediation

Source: Weise, Figueredo, Garcia, Baca & Gable (2013)

Figure 3. 1 Decision criteria for Test of Mediation

According to McKinnon et.al (2011), the results of the regression model are interpreted using the coefficient of the predictor variable before and after mediation using the R^2 and the difference between the beta coefficients of the predictor variable. The total effect (path c) is the sum of the mediated effect (path ab or c-c') and the direct effect path c'). Complete mediation is observed when the mediated effect is statistically significant ($p<0.5$) and the direct effect is not statistically significant ($P>0.05$) implying that the mediated effect and total effect are equal (path ab = path c). Thus, if the direct effect (path c') is zero when the mediator is included in the model, then the relationship is entirely mediated by the mediating variable.

If, the direct effect between the independent variable and the dependent variable is reduced after controlling for the mediator variable, but the direct effect is still significantly different from zero the mediation effect is said to be partial. Thus, in

partial mediation, both the mediated effect and the direct effect are statistically significant indicating that the mediator significantly accounts for part of the relation between the independent and the dependent variables (Path ab ≠0 and path c'≠ O).

In line with the criteria, if the β Coefficient for dynamic capabilities = 0 when firm competence is introduced in the model, then Firm Competence fully mediates the relationship between dynamic capabilities and performance of food processing firms. If the β of the dynamic capabilities is reduced but remains significant when firm competence is introduced, then the latter has a partial mediation on the relationship between dynamic capabilities and firm performance.

The sixth objective was to test the moderating effect of firm size on the relationship between dynamic capabilities and performance of food manufacturing firms in Kenya. Dynamic capabilities and the interactive term between dynamic capabilities and firm size were regressed on performance tested using the regression equation in model 3.7 as recommended by as suggested by (Preacher & Hayes, 2004).

$Y=\beta_0+\beta_1 DC+\beta_2 FS+\beta_3 DC*FS+\varepsilon$…..... 3.7

Where:

DC = Composite index of dynamic capabilities

FS= Firm Size

β_1= Coefficient for the Composite Index of dynamic capabilities.

β_2= Coefficient for Moderator that is, Firm Size

β_3= Coefficient for Interaction of Composite Index of dynamic capabilities and firm size.

The coefficient β_3 was used to indicate the effect of moderating variable that is, Firm Size on the relationship between dynamic capabilities and performance of food manufacturing firms. The study compared the p-value of β_3 with a significance value

of 0.05 to reject or fail to reject the null hypothesis. If the p-value of β_3 was higher than the significance value of 0.05 the study failed to reject the null hypothesis and vice versa. Therefore, objective six and hypothesis H_{06} was addressed by model 3.7.

3.9 Tests of Hypotheses

To test the hypotheses, the study adopted the empirical models presented in Table 3.3 below.

Table 3. 4 Summary of Hypothesis Testing

OBJECTIVE	HYPOTHESIS	STATISTICAL MODEL	Interpretation of Test Results
Research Objective 1 To assess the relationship between adaptive capabilities and performance of food manufacturing firms in Kenya	H_{01}: Adaptive capabilities do not have a significant effect on the performance of Food Manufacturing firms in Nairobi County	Multiple Regression Model for objective 1-4 $\mathbf{Y=\beta_0+\beta_1 AC+ \beta_2 MC+ \beta_3 LC+ \beta_4 GC_+ \varepsilon}$ **……Model (3:1)** where Y=Performance of Food Manufacturing firms β_i = Beta coefficients ($_{i = 0,1,2,3,4}$) AC= Adaptive Capability MC= Marketing Capability LC= Alliancing Capability GC_4= Managerial Capability ε = Error term	Note the F-values and β_i If $p<0.05$, Reject H_0 If $p>0.05$ fail to reject H_0
Research Objective 2 To determine the relationship between marketing capabilities and performance of Food Manufacturing in Kenya	H_{02} marketing capabilities do not have a significant effect on the performance of Food Manufacturing firms in Nairobi County		
Research Objective 3 To establish the relationship between alliance capabilities and performance of Food	H_{03}Alliance capabilities do not have a significant effect on the performance of Food Manufacturing		

OBJECTIVE	HYPOTHESIS	STATISTICAL MODEL	Interpretation of Test Results
Manufacturing firms in Kenya	firms in Nairobi County		
Research Objective 4 To examine the relationship between managerial capabilities and Performance of Food Manufacturing firms in Kenya	H_{04}Managerial capabilities do not have a significant effect on the performance of Food Manufacturing firms.		

OBJECTIVE	HYPOTHESIS	STATISTICAL MODEL	Interpretation of Test Results
Research Objective 5 To establish the mediating effect of Firm Competence on the relationship between dynamic capabilities and performance of Food Manufacturing firms in Kenya	H_{05} Firm Size does not mediate the relationship between dynamic capabilities and performance of Food Manufacturing firms in Nairobi County in Nairobi County	Stepwise regression $Y= i_1+cX+e_1$..... (1) $Y=i_2+ćX+bM+e_2$..... (2) $M= i_3+aX+e_3$…… (3) Where. i_1, i_2, i_3= Intercept Y= Performance X= Composite Index for dynamic capabilities M= composite index for Firm Competence c=Total effect of dynamic capabilities on performance ć= direct effect of dynamic capabilities on performance after adjusting for firm competence a=effect of dynamic capabilities on firm competence e_1,e_2,e_3.= residuals	If path c= c′, a and / or b=0: No mediation, If path c= c′ + (a-b): partial mediation is supported. If path c = (a-b), c′=0 Full mediation is supported

OBJECTIVE	HYPOTHESIS	STATISTICAL MODEL	Interpretation of Test Results
Research Objective 6 To assess the moderating effect of Firm Size on the relationship between and performance of Food Manufacturing firms in Kenya	H_{06}Firm Size has no moderating effect on the relationship between dynamic capabilities and Performance of Food Manufacturing firms in Kenya	Stepwise regression $Y= \beta_0 + \beta_7 X+ \beta_8 FC + \varepsilon$ (Model 3.2) $Y=\beta_0 +\beta_9 X + \beta_{10} X * FC +\varepsilon$ (Model 3.3) Where Y= Performance of Food Manufacturing firms FC= Firm Size β_0= intercept β_9, β_{10}= coefficients of the interactive term between dynamic capabilities and Firm Size ε= Error term	If β_9 to β_{10} in model 3.6 are not significant (P< 0) but β_8 in model 3.5 is significant at (P≥ 0.5) then Firm Size is just an explanatory variable. If β_9 to β_{10} in model 3.6 are significant (then Firm Size is a moderator whose effect and direction are given by the β_is .

Source: Author (2020)

3.10 Diagnostic Tests

The study carried out diagnostic tests to test for compliance with the assumptions for multiple regression. Field (2013) suggests that diagnostic tests should be carried out before data analysis to ensure the validity of the results of regression analysis. The diagnostic tests carried out for this study were, normality, linearity, multicollinearity, and homoscedasticity as recommended by (Deeks & Altman, 2004).

3.10.1 Normality Test

According to Kothari (2009), normality in statistics is the likelihood of a random variable to be normally distributed over the population sample. Kothari argues that the normality of the distribution population forms the basis for making statistical inferences about the sample. The study used Shapiro-Wilk's W test to test for normality. Garson, (2012) suggests that Wilk's test should not be significant if the assumption of normality is met. The study used a significance level of $P \geq 0.05$ to signify that independent variables are not normally distributed as recommended by (Malhotra & Dash 2011). Wooldridge (2000) suggests that if the condition of normality is met the plotted histogram should be bell-shaped. A violation of the assumption of normality means that the regression coefficient is less reliable because some of the data points will have more influence than others. Violation of normality can be addressed by centering the data or log-linear transformation.

3.10.2 Test for Linearity

Multiple regression assumes a linear relationship between the dependent and the independent variables. In this study, the Pearson's correlation coefficient was used to test compliance with the assumption of linearity as recommended by (Wooldridge,

2000). The correlation coefficient (r) lies between –1 and +1 and shows the direction and strength of the relationships between two variables. Thus, if the r is close to –1 or +1, two variables are close to a perfect linear relationship. When the r is close to 0, there is little or no correlation (Field, 2000). The study also plotted the dependent variable against the independent variables. According to Hair, Black, Babin, and Anderson (2010) when plotted, the data points should cluster around a straight line if the assumption is met. If the assumption of linearity is violated the model is not reliable because some of the observations will have higher values than others. Non-linearity can be addressed through log transformation.

3.10.3 Test for Multicollinearity

The concept of Multicollinearity assumes in regression modelling that independent variables in the model are not linearly related (Garson, 2012). It is therefore a type of disturbance in the data. The study calculated Tolerance and Variance Inflation Factor (VIF) to test for multicollinearity. A threshold of VIF $\leq$ 10 was used to interpret that there is no problem of multicollinearity. If Multicollinearity is present in the data the statistical inferences made may not be reliable (Field, 2009). If multicollinearity is fixed by centering the data or removing the independent variables with high VIF values.

3.10.5 Test for Homoscedasticity

According to Field (2013), multiple regression assumes that the variance of the error term is constant (Homoscedasticity). This study used the Levene test to test for homoscedasticity as suggested by (Field 2013). Where the values of the Levene test probability statistics are more than a significant level of P=0.05 it means that the

variances are equal. The Breush-Pagan test was conducted to test for homogeneity of variance as recommended by Warner (2008). Warner (2008) recommends that the P-value should be greater than 0.05 to meet the homoscedasticity assumption and allow further analysis using the regression model. The violation of homoscedasticity (called as heteroscedasticity) causes the regression coefficient to be less reliable. Heteroscedasticity can be addressed through log-linear transformation.

Table 3. 5 Summary of Diagnostic Tests

ASSUMPTION	DIAGNOSTIC TEST	DECISION CRITERIA
Normality	Shapiro Wilk's	If P≥ 0.05 independent variables are not normally distributed
Linearity	Pearson's Moment Correlation coefficient	If r< 0 negative correlation If r=0 no correlation If r>0 positive correlation
Multicollinearity	Variance Inflation Factor (VHF)	If VHF ≤ 10, no multicollinearity
Homoscedasticity	Breush-Pagan Levene Test	P > 0.5 homoscedasticity is met If P≥ 0.05 homoscedasticity is met

Source: Author 2020

3.11 Ethical Considerations

The researcher took various steps to ensure that the study adhered to the ethical research standards; institutional approval, informed consent, non-malfeasance, deceptive practices, right to withdraw, and plagiarism. Prior to conducting this study, all the necessary approval was sought from NACOSTI and a research permit obtained. The researcher ensured that any conditions set out in the research permit were followed.

To ensure informed consent, the researcher sought consent from management before administering the questionnaires. Consent was also verbally sought from the participants to participate in the research. Participants were also informed of the

purpose of the research and its potential benefits. Furthermore, no information was obtained from participants through deception or bribery to induce respondents to participate in this study.

To ensure anonymity and confidentiality of participants, the questionnaire was designed to collect only information related to the research and no private or personal questions were asked. Participants were also guaranteed that the information collected through the questionnaire would not be used for any other purpose other than academic research.

In observance of the principle of non-malfeasance (do no harm) the researcher ensured that the questionnaires did not contain any degrading or discriminating language that may be offensive to any respondent or the representative firm. Similarly, information obtained during the research would not be availed to competitors or agencies that may use the information to bring any harm to the participants or the respective firms. Moreover, participants were at liberty not to provide their names in the questionnaires. Lastly, to guard against plagiarism, journals and textbooks that were used in this study were fully acknowledged using APA referencing system.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

The chapter presents results of data analysis and discussion of research findings and is organized as follows: Analysis of response rate, demographic characteristics of respondents, descriptive statistics of the study variables, results of diagnostic tests, results of hypothesis testing, and analysis of qualitative data.

4.2 Analysis of Response Rate

The analysis of the response rate for this study is shown in Table 4.1

Table 4: 1 Analysis of Response Rate

Response	Frequency	Percent (%)
Returned Questionnaires	190	64.4
Unreturned Questionnaires	105	35.6
Total	295	100

Source: Survey Data, (2020)

A total of 295 questionnaires were distributed to selected food manufacturing firms in Nairobi City County, Kenya. Out of the 295 distributed, 190 were filled and returned representing a response rate of 64.4%. According to Babbie (2004); Mugenda and Mugenda (2003) a threshold of 50% is adequate for a study of this nature. According to Wimmer and Dominick (2006), a response rate of 21% to 70% is acceptable for self-administered questionnaires. The overall response rate of 64.4% was satisfactory for the analysis and reporting as it met the criteria by Wimmer and Dominick (2006). Unreturned questionnaires were attributed to factors such as the busy schedules of the respondents since the majority of targeted respondents were senior managers in their respective firms.

4.3 Demographic Characteristics of Respondents

The study sought to obtain demographic information relating to the respondents' gender, years of service in the current organization and the subsector of the food processing sector where the respondent was working. The results were crucial in explaining the major findings from the specific context.

4.3.1 Gender of the Respondents

An analysis of the gender of the respondents is shown in Table 4.2

Table 4. 2 Gender of the Respondents

Gender	Frequency	Percent
Male	121	63.7
Female	69	36.3
Total	190	100

Source: Survey Data, (2020)

The result in Table 4.2 shows that 63.7% of the respondents were males while 36.3% were female. These findings demonstrate that the study sample was representative in terms of gender. The results however show that there is a gender disparity among the managerial staff working in food processing firms in Kenya. This is inconsistent with population distribution which sets the population of men at 49.69% to 50.31% Female. The disparity is however low when weighed against national statistics which peg the ratio of men to women employed in the manufacturing sector at 16% Women to 84% men (KNBS, 2017). The disparity in employment between women and men still exists despite some improvement being seen in recent years. Indeed, there is a considerable proportion of more men than women employed in the majority of the sectors (KNBS.2017). This disparity is an area of concern because it is an indicator that food

processing firms may be having recruitment and promotion policies that discriminate against women.

4.3.2 Years of Service

The results of the analysis of the distribution of respondents in terms of years of service is shown in Table 4.3 below:

Table 4. 3 Respondents 'Years of Service

Years of service in the firm	Frequency	Percent
1-3 years	26	13.7
4-5 years	56	29.5
more than 5 years	108	56.8
Total	**190**	**100**

Source: Survey Data, (2020)

In terms of respondents' years of service to their organization, the study results show that 56.8% of the respondents had over 5 years of service, 29 5% had 4.5 years of services while 13.7% had served in the same organization for less than 3 years. The findings show that majority of the respondents were experienced managers who had worked for many years hence could provide accurate information regarding their firms.

4.3.3 Core Business

The population distribution of respondent companies according to by core business is shown in Table 4.4 below:

Table 4.4 Core Business of Respondents' Firms

Core Business	Frequency	Percentage
Beverage Manufacturing	44	23.2
Flour Milling	37	19.5
Sugar Confectionery	24	12.6
Meat & Fish Processing	23	12.1
Dairy Processing	23	12.1
Edible Oil Refining	16	8.4
Bread and Pastry	11	5.8
Spice and Condiments	8	4.2
Honey Processing	4	2.1
Total	**190**	**100.0**

Source Survey Data, (2020)

An analysis of the distribution of respondents among the various subsectors of food processing firms found that most of the companies. The results show that 23.2% were involved in beverage manufacturing which composed of alcoholic and non-alcoholic beverages followed by flour milling at 19.5%, sugar and confectionery were 12.6%, dairy, meat and fish processing were 12.1%, edible oil refining were 8.4%, bread and pastry were 5.8%, spice and condiments were 4.2% and honey processing were 2.1%.

The distribution is consistent with information found in the KAM database which shows a similar pattern of the size of the subsectors in the food processing sector. The findings are also close to those of Promar Consulting, (2016) who found that flour mills represent 18% processing of edible oils represents 18% while sugar and confectionery processing comprise 12%. The finding shows that the study covered respondents from diverse sectors hence the findings were representative of the various sectors.

4.3.4 Age of Respondent Firms

Results of the analysis of the companies in terms of the age of each firm they were working in are shown in Table 4.5.

Table 4: 5 Age of the Firm

Age of firm	Frequency	Percent
Below 5	5	2.6
6-10 years	64	33.7
Over 10 years	121	63.7
Total	190	100

Source: Survey Data, (2020)

The results show that 63.7% of the respondents indicated their firms were over 10 years. Out of the 190 respondents, 33.7% indicated their firms had operated for

between 6 and 10 years old while 2.6% indicated that their firms had operated for less than 5 years. These findings confirmed that both new and old firms were included in the study therefore the findings on the effects of dynamic capabilities and performance apply to firms of different ages.

4.3.5 Size of the Business

An analysis of the size of business of the respondent's firms is shown in Figure 4.1 below:

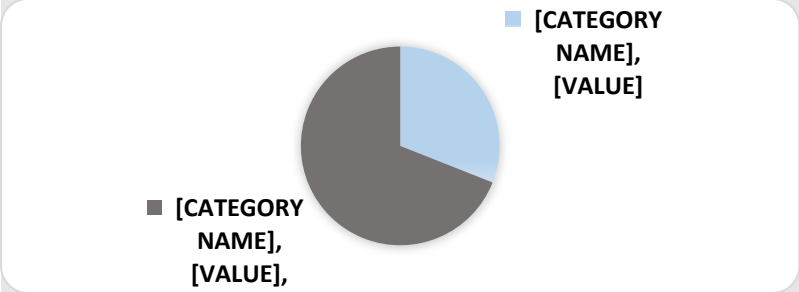


Figure 4. 1 Distribution of respondent's firms by Size

Source: Survey Data, (2020)

The results of the analysis show that 69% of the respondents were from medium enterprises while 31% were from large enterprises.

4.3.6 Size of Firm and Age of Firm Cross Tabulation

The results of the analysis of respondents' firms in terms of size of enterprise and age of the enterprise are shown in Table 4.6 below:

Table 4. 6 Age and Size of Respondents Firm

	Respondent's Firm Size		
Age of Respondents' firm	Medium Enterprise	Large Scale Enterprise	Total Respondents
Below 5	5	0	5
6-10 years	50	14	64
Over 10 years	77	44	121
Total No of respondents	**132**	**58**	**190**

Source: Survey Data, (2020)

The results show that 5 respondents were from medium scale enterprises that had operated for less than 5 years. There were 50 respondents from medium scale enterprises that had operated for 6-10 years while 77 respondents were from medium scale enterprises that had operated for over 10 years. There were 14 respondents from large scale enterprises that had operated for 6-10 years while 44 respondents were from large scale firms had operated for over 10 years. These results show that most of the respondents were from firms that had operated for more than 10 years.

4.3.7 Respondents'Firm Size and Respondent Gender

A cross-tabulation of the size of the firm and Gender of the respondent are shown in Table 4.7.

Table 4: 7 Firm Size /Respondent Gender Cross tabulation

Firm Size	Respondent Gender		Total
	Male	Female	
Medium Enterprise	84	48	132
Large Scale Enterprise	37	21	58
Total	121	69	190

Source Survey Data, (2020)

From Table 4.7 above, it was observed that 132 (69.5%) of the total respondents were from medium-sized firms and 58 (30.5%) from large scale firms. Among the respondents, forty-eight (25.3%) were female and 84 (44.2%) were male working in medium-sized enterprises. Twenty-one (11.1%) of the respondents were female and 37 (19.5%) were male working in large scale enterprises. These results show that the data was representative in terms of gender.

4.3.8 Firm Sales Turnover, Value of Inputs and Market Share

Table 4.8 shows the size of respondent firms in terms of sales turnover and the value of inputs used per year.

Table 4: 8 Firm Sales Turnover, Value of Inputs

	Category	Frequency	Percent
Sales turnover	Between Ksh 5 - 50 Million	37	19.5
	Between Ksh 50 Mill – 800 Million	82	43.2
	Over Ksh 800 Million	71	37.4
	Total	**190**	**100**
Value of inputs	Ksh 5M-50M	56	29.5
	Ksh 50M-800M	78	411
	Over Ksh 800M	56	29.5
	Total	**190**	**100**

Source: Survey Data, (2020)

Results in Table 4.8 show that 37.4% of the respondents indicated that their firm had an annual sales turnover of over Ksh 800 million, 43.2% had an annual sales turnover of between Ksh 50 and 800 million, while 19.5% indicated their firm had an annual sales turnover of between 5 and 50 million. The results further show that 29.5% of the respondents indicated that the annual value of inputs used by their firm was above Ksh 800 Million, 41% value of inputs used between Ksh 50 and 800 million, and 29.5 % value of inputs of below Ksh 5 Million. The results also show that 71.1% of the respondent firms had a market share of below 20%, 23.7% a market share of 20%-40%, 3.2 % a market share of 41-60%, and 21% a market share of 60%. These findings are a confirmation that medium and large sizes of the enterprises participated in the study.

4.3.9 Cross Tabulation of Respondent Biographical data

Table 4.9 shows a cross-tabulation of Respondent's biographical data.

Table 4: 9 Cross Tabulation of Respondent Biographical Data

Years of service	**Respondent Gender**		**Total**
	Male	Female	
1-3 years	15	11	26
4-5 years	39	17	56
more than 5 years	67	41	108
Total	121	69	190

Age of Firm/Sales Turnover of Firm

Firm Age	**Sales Turnover (Million)**			Total
	Ksh 5-50	Ksh 50-800	Over Ksh 800 M	
Below 5 years	5	0	0	5
6 - 10 years	23	28	13	64
Over 10 years	9	54	58	121
Total	37	82	71	190

Type of Business / Gender of the Respondents

Type of Business	Respondent Gender		
	Male	Female	Total
Beverage Manufacturing	32	12	44
Flour Milling	17	20	37
Sugar Confectionery	19	5	24
Meat & Fish Processing	17	6	23
Dairy Processing	9	14	23
Edible Oil Refining	11	5	16
Bread and Pastry	8	3	11
Spice and Condiments	6	2	8
Honey Processing	2	2	4
Total	**121**	**69**	**190**

Source: Survey Data, (2020)

Out of the 71 respondents from firms that were making an annual turnover of more than Ksh. 800 million, 13 were from firms that had operated for 6-10 years while 58 were from firms that had operated for more than 10 years since inception. The study also observed that there were 32 male and 12 female respondents from beverage manufacturers and 17 male and 20 female respondents from flour milling firms. It was

also observed that there were 19 male and 5 female respondents from sugar and confectionery firms. There were 17 male and 6 female respondents from meat and fish processing while from the dairy processors there were 9 male and 14 females Eleven (11) male and female respondents were from edible oil refining firms. The study also noted that from Bread and pastry manufactures, there were 8 male and 3 female respondents while from the spice and condiments manufacturers there were 6 male and 2 female respondents. There were 2 male and 2 female respondents from honey processors. The study concluded that respondents were drawn from diverse firms representing a broad spectrum of food manufacturing.

4.4 Descriptive Analysis of the Study Variables

The respondents were asked to respond to statements on each of the variables on a scale of 1-5. Measures of central tendency specifically the mean and standard deviation were used in the study to summarize the characteristics of the variables under study. The independent variables adopted for this study were adaptive capability, marketing capability, alliance capability, and managerial capability. Understanding the characteristics of these variables is important in helping to understand the drivers of firm performance. Firm competence was adopted as the mediating variable while the firm size was adopted as the moderating variable. The dependent variable for this study was firm performance. Each variable is discussed separately, and responses presented in separate tables followed by a discussion.

4.4.1 Descriptive Statistics on Adaptive Capability

The adaptive capability was the first independent variable of the study. The variable was chosen because it is a key element of dynamic capability through which firms adapt and configure themselves to the changing environment to sustain performance.

According to Teece (2010) businesses that do not use adaptive capabilities to foresee the uncertainty and risks originating from changing and developing conditions of competition are bound to be wiped out of the market. Mahler *et al.*,(2014) suggest that adaptive capability is strongly linked to strategic actions that aim towards the reconfiguration of organizational resources, competences, and routines to meet demands and opportunities within a changing business environment. Adaptive capabilities are important to Kenyan food manufacturing firms because they enable the firms to cope with challenges of ever-changing weather, regulatory environment, cost of raw materials, innovations, and imports.

The variable was operationalized in terms of the horizon, scanning change management, and resilience as suggested by Paliokaite (2012). The study sought to find out the extent to which firms had built adaptive capabilities over time. Respondents were asked to rate the extent to which their firms had shown a commitment to developing dynamic capabilities by responding to statements touching on adaptive capabilities on a scale of 1-5 where 1 = "not at all, "2 =" slight extent" 3= "moderate extent" 4 = "high extent" and 5 = "very high extent". The overall aggregate mean score for the commitment of resources to build adaptive capabilities stood at mean = 3.96 with a standard deviation of 1.25 showing that to a great extent, manufacturing firms commit resources to create adaptive capabilities.

To investigate the extent of commitment to the building of adaptive capabilities, respondents were asked to express their opinion on the extent to which their firms committed resources on horizon scanning, change management, and resilience. The aggregate mean score for horizon scanning was 3.60 with a standard deviation of 1.28. The study sought to establish whether their firms commit substantial resources to scan

the environment to identify new opportunities. The results show that with a mean score of 3.84 and a standard deviation of 1.30, respondents' manufacturing firms commit resources to scan the environment for new opportunities to a moderate extent.

A tabulation of the responses is shown in table 4.10 below.

Table 4: 10 Descriptive Statistics on Adaptive Capability

Statement	Min	Max	Sum	Mean	Std. Dev.
Horizon Scanning					
Committing substantial resources to scan the environment to identify new opportunities	1	5	729	3.84	1.30
Committing substantial resources to scan the environment to identify new threats	1	5	675	3.55	1.29
Committing substantial resources to scan the environment to identify recent technologies	1	5	649	3.42	1.25
Sub-variable Aggregate				3.60	1.80
Change Management					
Continually adjusting of strategies based on information we obtain from the market	1	5	825	4.34	0.77
Continually adjusting of product mix based on information we obtain from the market	1	5	713	3.75	1.31
Continually adjusting of systems based on information we obtain from the market	1	5	753	3.96	1.21
We always encourage our people to challenge outmoded traditions	1	5	787	3.23	1.45
Sub-variable aggregate				4.02	1.09
Resilience					
We always have a risk management strategy	1	5	570	4.14	1.22
We are always able to respond to market disruption faster than our competitors	1	5	702	3.00	1.42
Subvariable aggregate				4.46	1.36
Overall Aggregate				**3.96**	**1.25**

Source: Survey Data, (2020)

The results also showed that respondents' manufacturing firms, to a moderate extent committed substantial resources to scan the environment to identify new threats with a mean score of 3.55 and a standard deviation of 1.29. Results showed that to a moderate

extent, respondents' firms committed substantial resources to scan the environment for innovative technologies with a mean score of 3.42 and a standard deviation of 1.25. The findings are consistent with the assertion of Ali Sun and Ali (2017). That horizon scanning enables the management team to have updated information about new products, services, and technology, which enables them to understand the changing market trends and customer demands.

Change management had a mean score of 4.02 and a standard deviation of 1.09 indicating that management in respondents' firms, to a high extent committed to change management. A mean score of 0.43 and a standard deviation of 0.77 showed that most respondents' firms continually adjust strategies based on information gathered from horizon scanning. The findings showed a mean score of 3.75 and a standard deviation of 1.31 implying that respondents' firms continually adjust product mix based on information gathered from the market. The results also showed with a mean score of 3.96 and a standard deviation of 1.24 that respondents' firms continually adjust systems based on information gathered from the market. The findings confirm the observations of Kaehler *el. al*., 2014 that change management guided by environmental scanning is considered important for seeking to increase the number of options or available strategic reactions to adapt quickly to environmental changes. The finding confirmed that the majority of the firms adjusted their product and systems based on the information they obtained from the market.

The mean score for resilience was 3.46 with a standard deviation of 1.363 meaning that management in most respondent firms is, to a moderate extent, committed to building resilience. With a mean score of 4.14 and a standard deviation of 1.22 respondents agreed to a high extent, that manufacturing firms always have a risk management

strategy. The majority of the respondents indicated that their firms are, to a moderate extent, always able to respond to market disruption faster than their competitors as shown by a mean of 3.00 and a standard deviation of 1.41. The study found that most of the respondents' firms encourage people to challenge outmoded traditions as shown by a mean score of 3.23 and a standard deviation of 1.45.

These findings show that managers of manufacturing firms in Kenya agree with the assertion of Paliokaite, Pacesa, and Sapprong (2018) that building resilience helps organizations to identify, anticipate, and assess discontinuous change, to enable them to execute appropriate strategic responses. The findings established that manufacturing firms had, to a high extent, built adaptive capabilities. These capabilities help manufacturing firms to enhance their performance. The findings imply that management in food manufacturing firms in Kenya supports the view of Winter (2003) that to compete successfully in their markets, firms need dynamic capabilities to help them sustain performance.

4.4.2 Descriptive Statistics on Marketing Capability

Marketing capability was the second independent variable for the study. The variable was adopted because it is seen as important in defining how a firm is focused on its customers and competitors to deliver success. Marketing capabilities are also seen as a driver of firm growth and sustainable performance as it drives both top and bottom-line growth of the firm. In this study, the variable was operationalized in terms of market sensing, customer relationship management, and brand management. Respondents were asked to rate the extent to which their firms had shown a commitment to developing dynamic capabilities by responding to statements touching on marketing

capabilities on a scale of 1-5 where 1 = "not at all, "2 =" slight extent" 3= "moderate extent" 4 = "high extent" and 5 = "very high extent".

The overall results of the responses for marketing capability was an aggregate mean of 3.69 and a standard deviation of 1.25 showing that respondents' firms have shown commitment to the development of marketing capability to a moderate extent. Commitment to development of marketing capabilities was measured in terms of market sensing, customer relationship management and brand management Market sensing capability had a mean score of 3.74 and a standard deviation of 1.27 showing that to a moderate extent respondents firms are committed to the development of market sensing capability. The study sought to establish whether the firms had an adequate budget for market research. The results show, with a mean score of 3.44 and a standard deviation of 1.42 that respondents' firms have adequate budgets for market research to a moderate extent.

A tabulation of descriptive statistics for marketing capability based on responses is shown in Table 4.11 below.

Table 4. 11 Descriptive Statistics on Marketing Capability

Statement	Min	Max	Sum	Mean	Std. Dev.
Market Sensing					
Having an adequate budget for market research.	1	5	654	3.44	1.42
Carrying out of new product development as informed by market research.	1	5	650	3.42	1.44
We review prices to respond to market trends.	1	5	826	4.35	0.94
Sub-variable Aggregate				3.74	1.27
Customer Relationship					
Continually assessing customer satisfaction.	1	5	695	3.66	1.23
Acting on Customer Complaints are promptly.	1	5	688	3.52	1.16
Having a strategy for retaining our loyal customers.	1	5	715	3.76	1.35
Treating strong customer relationships as an asset.			711	4.23	1.03
Sub-variable Aggregate				3.79	1.19
Brand Management					
Having a sufficient budget for brand management	1	5	679	3.74	1.32
Having documented procedures to create brand awareness.	1	5	706	3.57	1.35
Teaching employees brand management techniques.	1	5	803	3.27	1.18
Sub-variable Aggregate				3.53	1.29
Overall Aggregate				**3.69**	**1.25**

Source: (Survey Data, 2020)

Respondents were asked to indicate whether new product development in their firms was

informed by market research. The results as shown by the mean of 3.42 and a standard deviation of 1.44 indicate that to a great extent, new product development in respondent firms was informed by market research. The study also sought to find out if the review of prices was guided by market trends. The results as shown by the mean of 4.35 and a standard deviation of 0.94 shows that respondents' firms reviewed prices to respond to the market trends. These results show that the managers in the respondents' firms hold the same view as held by Morgan (2009) that improved marketing capability

using customer intelligence, enhanced customer or market research and analysis, and improved marketing and delivery process leads to improved performance of firms.

Customer relationship management capability among manufacturing firms had a mean score of 3.79 and a standard deviation of 1.19 which shows that management in manufacturing firms to a high extent, is committed to the development of customer relationship capability. The results represented by a mean of 3.66 and a standard deviation of 1.23 show that to a moderate extent, respondents firms continually assessed customer satisfaction. The study also found that to a moderate extent, customer complaints are acted on promptly in the respondents' firms as shown by the mean score of 3.52 and a standard deviation of 1.16.

The existence of a strategy for retaining loyal customers had a mean score of 3.76 and a standard deviation of 1.35 showing that to a high extent, manufacturing firms have programs to retain loyal customers. The results of the study also show that with a mean score of 4.23 and a standard deviation of 1.03, respondents' firms to a very high extent treat customer relationships as an asset. These results endorse the view held by Prahalad and Ramaswamy, (2000) that a market-oriented firm aligns its processes, capabilities performance metrics, as well as customer-related activities to build stronger relationships with its customers to attain success.

Brand management capability had a mean score of 3.53 and a standard deviation of 1.29 meaning that to a moderate extent, manufacturing firms are committed to the building of brand management capability. The study further sought to find out whether firms had enough budget for brand management. A mean of 3.74 and a standard deviation of 1.32 shows that manufacturing firms to a high extent have enough budgets

for brand management. The study also found through a mean score of 3.57 and a standard deviation of 1.35 that to a high extent, firms have documented procedures for creating brand awareness.

Teaching employees brand management techniques had a mean score of 3.53 and a standard deviation of 1.29 showing that to a high extent, management of manufacturing firms teach their employees brand management capability. These results show that manufacturing firms recognize that systems and processes are needed for the development, strengthening positioning, and repairing brands as opined by (Azizi, Morgan, Slotegraaf and Vorhies,(2009) and Movahed and Khah, (2009).

4.4.3 Descriptive Statistics on Alliancing Capability

Alliancing capability was the third independent variable in this study. The variable was adopted because it is seen as an important dynamic capability that provides a fast and flexible way for firms to access complementary resources and skills that reside in other companies (Dyer *et al.,* 2001). In this study, alliance capability was operationalized in terms of new partner identification, alliance management and alliance experience. Respondents were asked to rate the extent to which their firms had shown a commitment to developing dynamic capabilities by responding to statements touching on alliancing capabilities on a scale of 1-5 where 1 = "not at all,"2 =" slight extent". 3 = "high extent" and 5 = "very high extent"

The results of the study showed that alliancing capabilities had an aggregate mean score of 3.50 and a standard deviation of 1.33 meaning that management of respondent firms are to a moderate extent committed to the building of alliancing capabilities. The study asked the respondent whether their firms are continuously looking for new

partnerships. The results showed a mean score of 3.47 and a standard deviation of 1.29 indicating that to a moderate extent, manufacturing firms in Kenya are continuously looking for new partnerships. The study sought to find out whether manufacturing firms have written procedures for finding new partners. The results showed a mean score of 3.14 and a standard deviation of 1.45 meaning that to a moderate extent, firms have written procedures for identifying new partners. These results show that respondents agree that manufacturing firms are committed to the development of new partner identification capability.

A summary of descriptive statistics for alliancing capability is shown on table 4.12 below.

Table 4. 12 Descriptive Statistics for Alliancing Capabilities

	Min	Max	Sum	Mean	Std. Dev.
Partner Identification Propensity					
Continuously looking for new partnerships.	1	5	659	3.47	1.29
Having a written procedure for finding new partners.	1	5	597	3.14	1.45
Sub-Variable Aggregate				3.31	1.37
Alliance Portfolio Management					
Always having a manager responsible for managing intra industry partnerships.	1	5	667	3.51	1.37
Encouraging senior managers to participate in the leadership of industry associations.	1	5	680	3.58	1.34
Sub-Variance Variable				3.47	1.29
Alliance Experience					
Always review the size of the alliance portfolio.	1	5	578	3.04	1.39
Sharing industry information with peers	1	5	616	3.24	1.33
Interorganizational coordination				3.14	1.36
Partnering with peers to lobby for a favorable regulatory framework.	1	5	764	4.02	1.20
Partnering with suppliers to stabilize raw material supply.	1	5	755	3.97	1.26
Sub-variable Aggregate				3.99	1.23
Overall Aggregate				**3.50**	**1.33**

Source: (Survey Data, 2020)

Alliance management capability had a mean score of 3.97 and a standard deviation of 1.29 showing that to a moderate extent, management was committed to building alliance management capability. Respondents were asked to indicate whether their firms have a designated manager responsible for intra industry partnerships. With a mean score of 3.51 and a standard deviation of 1.37 respondents indicated that their firms have to a moderate extent, a manager responsible for intra industry partnerships. Respondents also showed that to a moderate extent, their firms encourage managers to participate in the leadership of industry associations with a mean score of 3.58 and a standard deviation of 1.34.

Alliance experience a mean score of 3.14 and a standard deviation of 1.36 showing that to a moderate extend food manufacturing firms were committed to building alliance experience Reviewing the size of the alliance portfolio had a mean score of 3.04 and a standard deviation of 1.39 which indicates that respondents' firms, to a moderate extent always review their alliance portfolio. The study showed with a mean score of 3.24 and a standard deviation of 1.33 implying that respondent's firms, to a moderate extent, share industry information with peers. The results reinforce the view held by Kale and Sigh, (2007) that alliance management requires a deliberate and conscious investment in training, education, and empowerment of alliance managers to enable them to broker alliance relationships and convert those relationships into sources of knowledge transfer.

Interorganizational coordination had a mean score of 3.99 and a standard deviation of 1.23 implying that respondent's firms, to a moderate extent were committed to building interorganizational coordination capabilities. Respondents showed with a mean score of 3.97 and a standard deviation of 1.26 that to a moderate extent their firms partner

with suppliers to stabilize raw material supply. The results also showed with a mean score of 4.02 and a standard deviation of 1.20 that respondents' firms partner with peers to lobby for a favorable regulatory framework. The results also show that managers agree with the view held by Peny, (2009) that a strategic alliance is a source of sustainable value for everyone involved. The overall results also show that managers agree with the assertion by Kale and Sigh (2009) that strategic alliances between business partners are an important strategy to compete and grow in the uncertainty of today's business environment.

4.4.4 Descriptive Statistics on Managerial Capabilities

Managerial Capabilities was the fourth independent variable for the study. This variable was chosen because dynamic capabilities to alter core business processes to respond to change in the environment generally lie within the management. Helfat and Jeffrey, (2015) have observed that organizations whose managers have superior managerial capabilities can adapt and change more successfully than those whose managers have less effective or none. The choice of the variable is informed by the upper echelons theory and the dynamic capabilities theory. The variable was operationalized in terms of managerial human capital, management style, people development, and succession planning. Respondents were asked to rate the extent to which their firms had shown a commitment to developing dynamic capabilities by responding to statements touching on managerial capabilities on a scale of 1-5 where 1 = "not at all, "2 =" slight extent" 3= "moderate extent" 4 = "high extent" and 5 = "very high extent".

The overall results show a mean score of 3.33 and a standard deviation of 1.34. This implies that the management of manufacturing firms to a moderate extent, are

committed to the building of managerial capability in their firms. The study measured managerial capability in terms of managerial human capital, managerial style, decision making, people development, and succession planning. Managerial human capital had a mean score of 3.26 and a standard deviation of 1.30 showing that management of manufacturing firms to a moderate extent, is committed to the development of managerial human capital. Respondents were asked to indicate the extent to which their firms employed line managers with functional experience. The results showed a mean score of 3.56 and a standard deviation of 1.307 showing that to a moderate extent, respondents firms only engaged line managers with functional experience.

A summary of descriptive statistics for managerial capability is shown in table 4.13 below.

Table 4. 13 Descriptive Statistics for Managerial Capabilities

Statement	Min	Max	Sum	Mean	Std. Dev.
Managerial Human Capital					
Engaging new managers who have functional experience	1	5	676	3.56	1.30
Paying for managers' membership in social clubs	1	5	560	2.95	1.37
Sub-variable aggregate				3.26	1.30
Decision Making					
Involving employees in decision making	1	5	721	3.79	1.18
Encourage line managers to delegate decision-making power to employees	1	5	684	3.60	1.26
Sub-Variable aggregate				3.76	1.22
Management Style					
Having team building events to create cohesion between managers and staff	1	5	648	3.41	1.36
Encouraging employees to innovate new ways of doing their work	1	5	612	3.22	1.38
Subvariable aggregate				3.32	1.37
People Development					
Sponsoring professional training for our employees	1	5	539	2.84	1.50
Sub-Variable Aggregate				2.84	1.50
Succession Planning					
Having a documented procedure for developing future leaders.	1	5	585	3.08	1.39
Encouraging line managers to identify areas likely to have skill gaps in future	1	5	661	3.48	1.31
Subvariable Aggregate				3.28	1.35
Overall Aggregate				**3.33**	**1.34**

Source: (Survey Data, 2020)

The results showed a mean score of 2.95 and a standard deviation of 1.375 in response to a question on whether they pay for their managers' membership in social clubs. This result shows that few respondents' firms pay for such club membership meaning that management of manufacturing firms is committed to only a slight extent on the development of human social capital. The results imply that the management of food manufacturing firms does not support the view held by Kor, Mahoney, and Michael, (2007) that managers can draw on their knowledge, and expertise to sense and seize opportunities and threats and reconfigure organizational resources.

Decision Making had a mean score of 3.76 and a standard deviation of 1.22 showing that management in respondents' firms is moderately committed to the development of dynamic capabilities in management style. The study asked respondents to indicate their opinion on whether management in their firms always encourages line managers to delegate decision making power to employees, the study results showed a mean score of 3.79 and a standard deviation of 1.18 meaning that line managers in manufacturing firms are to a very high extent, encouraged to delegate decision making power to employees.

Management style had a mean score of 3.32 and a standard deviation of 1.37.The results indicated with a mean score of 3.60 and a standard deviation of 1.26 that to a moderate extent; employees in food manufacturing firms in Kenya are involved in decision making. A mean score of 3.41 with a standard deviation of 1.36 shows that to a moderate extent, respondents firms hold team building events to create cohesion between managers and staff.

The results further showed with a mean score of 3.22 and a standard deviation of 1.38 that to a moderate extent, respondents' firms encouraged employees to innovate new ways of doing their work. These results show that respondents agreed that the management style in manufacturing firms is participatory. These results endorse the view held by Daneels, (2002) that a positive management style leads to increased organizational commitment and influences the job performance of staff and subsequently the whole organization.

On people development a mean score of 2.84 with a standard deviation of 1.50 showed that manufacturing firms sponsor employees for professional courses to only a small extent. This shows that management in food manufacturing firms in Kenya supports

the view of Jacobs and Washington (2003) that people development enables employees to perform better on their jobs which, in turn, enables the organization as a whole to perform better as well.

Succession planning had a mean score of 3.28 with a standard deviation of 1.35 meaning that to moderate extent management of manufacturing firms is committed to succession planning. On whether their firms had a documented procedure for developing future leaders, the mean score was 3.08 with a standard deviation of 1.39 and this showed that to a moderate extent, manufacturing firms have documented procedures for developing future leaders. The study also sought to establish whether manufacturing firms encouraged line managers to identify areas likely to have skill gaps in the future. The results show a mean score of 3.48 with a standard deviation of 1.31 indicating that to a moderate extent, manufacturing firms encourage managers to identify future skill gaps. The findings of this study are in line with those of Bellner and MacLean (2015) who argue that managerial capabilities are linked to entrepreneurial management and they generate superior performance. The findings are also in line with those of Kabongo and Boiral (2017) who found out that the performance of firms largely depends on the application of managerial capabilities.

4.4.5 Descriptive Statistics on Firm Competence

Firm competence was the mediating variable adopted for this study. The variable was chosen because it was crucial on account of its interaction with dynamic capabilities and other cooperate phenomena to create a competitive advantage. The choice of the variable was informed by the competence-based theory of the firm in this study. Firm competence was operationalized in terms of foundational competence, technological competence, and functional competence as categorized by Cockburn, Henderson, and

Stem (2000). The study sought to find out the extent to which firms had built competences to carry out their operations to sustain superior performance. Respondents were asked to state their opinion on the status of each competence shown in the questionnaire on a scale of 1-5 where 1 = "not applicable" 2- "Definitely False", 3=False", 4- "Mostly True" and 5 = "definitely true". Mean and standard deviation was computed for the variable as given in Table 4.14.

Table 4: 14 Descriptive Statistics for Firm Competence

Statement	Min	Max	Sum	Mean	Std. Dev.
Foundational Competence					
Having a well-developed code of conduct.	1	5	778	4.09	1.16
Having a clear set of organizational values	1	5	802	4.22	1.02
Having a clearly developed non-discrimination policy	1	5	683	3.59	1.34
Having a well-developed anti-corruption policy	1	5	692	3.64	1.40
Sub-variable aggregate				3.89	1.32
Technological Competence					
The difficulty of key employees cannot transfer skills to other firms	1	5	516	2.72	1.16
Having specialized equipment for the manufacture of products	1	5	806	4.24	1.12
Ensuring that all products undergo quality control	2	5	806	4.24	0.86
The inability of competitors to imitate key brands	1	5	524	2.76	1.32
Having a steady flow of new product ideas	1	5	552	2.91	1.47
Sub-variable aggregate				3.37	1.19
Functional Competence					
Leadership of functional teams by experienced managers	1	5	785	4.13	0.95
Having specialized skills by shared service teams	1	5	740	3.89	1.29
Possession of unique skills that are unmatched in the market	1	5	593	3.12	1.28
Having structured on the job training for employees	1	5	773	4.07	1.01
Having a procedure manual detailing all routines	1	5	832	4.38	0.88
Sub-variable aggregate				3.92	1.09
Overall Aggregate				**3.72**	**1.16**

Source: Survey Data, (2020)

Firm competence had an aggregate score of 3.72 with a standard deviation of 1.16 indicating that most of the firms did not have firms' competences. The existence of foundational competence had a mean score of 3.89 with a standard deviation of 1.23.

To test the extent to which firms had built foundational competencies, this study sought to find out if respondents firms had a well-developed code of conduct, organizational values, non-discrimination policy, and anti-corruption policy. The mean score for the existence of a well-developed code of conduct was 4.09 with a standard deviation of 1.16 meaning that most of the respondents' manufacturing firms had a well-developed code of conduct. The results also showed a mean score of 4.22 and a mean score of 1.02 for the existence of a clear set organizational value. Furthermore, respondents indicated with a mean score of 3.59 and a standard deviation of 1.34 that their firms had a non-discrimination policy.

The study also sought to find out if respondents' manufacturing firms had a well-developed anti-corruption policy. The findings showed that the existence of a well-developed anti-corruption policy had a mean score of 3.94 with a standard deviation of 1.40 meaning that the majority of manufacturing firms do not have an anti-corruption policy. This confirms the findings by KEPSA (2019) that 44% of private-sector enterprises are not aware of the Bribery Act or the liability to comply with it and out of those who are aware only 32% expressed an understanding of it.

The results of the study showed that the existence of technological competence had a mean score of 3.37 and a standard deviation of 1.19. Existence of technological competence was measured in terms of possession of specialized equipment, the requirement for products to go through quality control, transferability of employee

technical skills to competitors, imitability of brands and flow of new product ideas. The findings show that possession of specialized equipment for manufacturing products had a mean score of 4.24 and a standard deviation of 1.12 while the requirement for all products to undergo quality control had a mean score of 4.24 and a standard deviation of 0.86. These results show that respondents' manufacturing firms had built competences in terms of physical infrastructure and quality control.

Respondents were asked to indicate their opinion on whether skills possessed by their employees were transferable to other firms. Responses to the transferability of employee skills to other firms were 2.72 with a standard deviation of 1.16. This shows that manufacturing firms had not built unique non-transferable skills among their employees. Non-imitability of brands had a mean score of 2.76 with a standard deviation of 1.327 meaning that a firm’s brand could easily be imitated among firms. Similarly, results showed that the flow of new product ideas had a mean score of 2.76 and a standard deviation of 1.37 implying that most manufacturing firms had not built enough technical competences to generate a steady flow of new product ideas.

Functional competence had a mean score of 3.92 and a standard deviation of 1.08. By a mean score of 4.13 and a standard deviation of 0.95 the results show that functional teams in most manufacturing firms are led by experienced managers. Results showed that possession of specialized skills by shared service managers had a mean score of 3.89 and a standard deviation of 1.29 meaning that most manufacturers employ skilled line managers. Existence of on the job training for all employees had a mean score of 4.07 and a standard deviation of 1.013 meaning that most manufacturing firms arm their employees with functional competence.

The study sought to find out whether respondents' firms have documented procedures detailing all routines. The existence of a procedure manual detailing all routines had a mean score of 3.90 and a standard deviation of 0.88 these results show that food processing firms in Kenya have built functional competences to carry out operations to sustain superior performance. Possession of unique unmatched skills had a mean score of 3.12 and a standard deviation of 1.289. This shows that manufacturing firms have not built skills that other firms cannot replicate and thus their employee competencies do not give them a competitive advantage over their peers. The results on functional competence generally show that respondent firms agree with the view of Doole *et al.* (2006) that with today's increasing competition, firms need enhanced competences to identify, create and deliver superior customer value.

4.4.6 Descriptive Statistics on Firm Size

Firm size was adopted as the moderating variable for this study. The variable was chosen because it affects the ability of firms to take advantage of economies of scale and in turn overall performance. The choice of the variable was informed by the theory of the optimal size of the firm. Theoretically, there is an optimum size at which a firm can operate at a scale at which, with the existing technology and organizing ability, it has the lowest average cost per unit of output. According to Almeida and Wolfenson (2003), the optimal size for each firm depends on its organizational capital, and in the case of entrepreneurial firms, the abilities of the entrepreneur size are one of the firm characteristics hypothesized in this study as being moderators of the effect of dynamic capabilities on firm performance. The variable was operationalized in terms of size of the workforce, level of sales turnover, the value of inputs as used by (Abbasi & Malik, 2015). Respondents were asked to rate their opinion on the size of their firm on a scale

of 1.5 where 1 = neither agree nor disagree" 2 = strongly disagree, 3=disagree", 4 ="Agree", 5 = "Strongly Agree". Mean and the standard deviation was computed for the variable as given in Table 4.15 below.

Table 4: 15 Descriptive Statistics for Firm Size

Statement	Min	Max	Sum	Mean	Std. Dev.
Workforce establishment-level is seen as an important asset	2	5	672	3.54	1.13
The annual value of raw materials used by the firm matches with industry practice	2	5	654	3.44	1.17
Market share is a major source of our competitiveness	2	5	668	3.52	1.07
Annual sales turnover as a source of confidence to remain in the industry	2	5	668	33.52	1.08
Size as a source of optimistic to remain viable industry players.	2	5	637	3.35	1.08
Aggregate				**3.54**	**1.13**

Source Survey data. (2020)

Respondents were asked to state their opinion on whether management considers workforce establishment as an important asset had a mean score of 3.54 and a standard deviation of 1.13 indicating that workforce size is not considered as an important asset by the management of respondents' manufacturing firms. Market share had a mean score of 3.52 and a standard deviation of 1.07. This result showed that respondents generally disagreed that market share is a major source of competitiveness among manufacturing firms. Respondents were asked to state their opinion on whether the current level of annual sales turnover gave them the confidence to remain in the industry. The results showed a mean score of 3.52 with a standard deviation of 1.08. The results show that respondents felt that the current level of sales turnover does not give them the confidence to remain in the industry.

Respondents were asked to state their opinion on whether their current usage of raw materials matched industry practice. The results showed a mean score of 3.44 with a

standard deviation of 1.17 showing disagreement that the annual use of raw material by respondents firm matched industry practice. Similarly, respondents were asked to state their opinion on whether they were optimistic to remain viable industry players given the size of their firm. The results showed a mean score of 3.35 with a standard deviation of 1. 87 meaning that the respondents were uncertain as to whether their firms would remain to be viable players in the industry.

This finding was in line with the observation by (PWC, 2018) that rising levels of poverty coupled with the general slowdown of the economy has continued to inhibit growth in the demand of locally manufactured goods, as effective demand continues to shift more in favour of relatively cheaper imported manufactured items. Besides, the inflated cost of inputs because of poor infrastructure has led to high prices of locally manufactured products thereby limiting their competitiveness in the local market and hampering the sector's capacity utilization.

4.4.7 Descriptive Statistics on Firm Performance

Firm performance was the independent variable for the study. It was adopted as the independent variable because it is seen as an important indicator of firm success. The choice of the variable was informed by the balanced scorecard framework and the stakeholder theory. The study took the perspective of Epstein and Buhovac, (2008) that performance is the harmonization of economic environmental and social objectives in the delivery of core business activities to create value for its stakeholders.

According to Barney, (2001), firms exist to create value for their stakeholders. Gavrea, Ilies and Stegerean (2011) argue that if the firm creates a value that meets or exceeds the value that its providers expect, resources will continue to be made available and the

firm will continue to survive and prosper. This is echoed by Sabina (2009), who argues that top management's actions are judged according to their firm's performance and superior performance influences the continuation of the firm.

According to Ellington (1994), business goals are inseparable from the societies and environments within which they operate and although short-term economic pain can be pursued, a failure to account for social and environmental impacts can make those business practices unsustainable. Thus, as pointed out by Harrison and Wicks (2013) food manufacturing firms should consider and promote the interests of all stakeholders because the people who own stock in a business are not the only ones who stand to be affected when businesses make decisions Hubbard, (2009) argues that the paradigm of firm performance is hinged on the pillars of organizations economic, environmental and social excellence.

Dyllick and Hockert (2002) argues that economic performance focuses on the way an organization creates value for stakeholders with whom it has direct and indirect economic interactions. Environmental performance generally refers to how organizations minimize the negative effect of their operations and the by-products their activities create Moneva *et. al*., (2006). According to Hubbard (2009) environmental performance focuses on consumption efficiency (for example of materials, energy, and water), influence on biodiversity, and impact minimization (of emissions, wastes, effluents, products, and services).

Social performance generally refers to the impact a firm (and its suppliers) has on the communities in which it works (Miller & Wesley, 2010),. Social performance focuses on labour practices (such as compliance with labour laws, employee satisfaction,

human rights, and employee welfare and product stewardship (such as measures to reduce product risks to customers, after-sales service, user manuals, reduction of defective products social performance indicators also track organizations' performance on equality, justice and other social impacts (Eikelenboom & Jong 2017). The respondents were required to rate their level of agreement or disagreement with statements pertaining to level of their firm performance on a scale of 1 to 5.Where: 1 = below 0%, 2 - None (0%) 3= between 1 - 10%, 4 = between 10 - 20%, 5= over 20%.

The variable was operationalized in terms of financial performance, customer satisfaction, employee welfare, social excellence, environmental stewardship, and corporate governance to measure the performance of food manufacturing firms in Kenya. This ensured that the study measured firm performance in terms of the extent to which firms met the expectations of both internal and external stakeholders of food manufacturing firms using both financial and non-financial perspectives. The study sought an opinion on the extent to which the performance of the firm had been achieved in the last three years.

A summary of descriptive statistics for firm performance is shown in Table 4.16 below.

Table 4. 16 Descriptive Statistics on Firm Performance

Statement	Min	Max	Sum	Mean	Std. Dev.
Financial Performance					
Increase in Profits	1	5	665	3.50	1.32
Revenue Growth	1	5	677	3.56	1.18
Growth of Sales volumes	1	5	651	3.43	1.22
Growth of market share	1	5	612	3.22	1.07
Growth of firm assets	1	5	580	3.35	1.02
Subvariable Aggregate				3.50	1.16
Customer Satisfaction					
Growth in number of customers	1	5	664	3.49	1.19
Speed of reaction to customer complaints	2	5	695	3.66	0.85
Reputation of firm's brands	1	5	707	3.72	1.05
Subvariable Aggregate				3.62	1.03
Employee Welfare					
Overall employee Satisfaction	2	5	672	3.54	1.02
Employee reward	1	5	617	3.25	1.01
Investment in employee development	1	5	566	2.98	1.06
Subvariable Aggregate				3.26	1.03
Social Excellence					
Expenditure on CSR programs	1	5	647	3.41	1.00
Employment of minorities	2	5	612	3.22	0.94
Number of social programs	2	5	606	3.19	1.16
Sub-variable Aggregate				3.27	1.00
Environmental Stewardship					
Use of Recyclable materials	2	5	785	4.13	1.11
Expenditure on solid waste disposal	1	5	720	3.79	1.03
Energy saving initiatives	2	5	720	3.79	1.14
Subvariable aggregate				**3.79**	**1.08**
Corporate Governance					
Board Independence	1	5	793	4.17	1.01
New Board members	1	5	697	3.67	1.19
Company policies reviewed by the board of directors	1	5	816	4.29	0.99
Sub-variable Aggregate				4.04	1.06
Overall Aggregate				**3.55**	**1.08**

Source: Survey Data, (2020)

The overall aggregate mean score for performance was 3.55 with a standard deviation of 1.08 showing that the overall performance of manufacturing firms grew between 1 % and 10% over the last three years. Financial performance had a mean score of 3.35

and a standard deviation of 1.16 meaning that over the last three years, the respondent firms realized a growth of between 1-10% in terms of financial indicators. For instance, profits growth had a mean score of the mean score of 3.5 with a standard deviation of 1.32 while revenue growth had a mean score of 3.56 and a standard deviation of 1 23.

Growth in sales volumes share had a mean score of 3.43 with a standard deviation of 1.22, growth in market share had a mean score of 3.22 and a standard deviation of 1.02. Growth in firm assets had a mean score of 3.05 with a standard deviation of 1.02. These findings show performance in terms of profits, revenue, sales, market share and assets attained a growth of 1-10% over the last three years preceding the study. This performance was at the backdrop of inflation rates averaging at 8% in 2017 coupled with two presidential elections that dampened economic growth to 5.5% down from 5% in 2010 (KNBS, 2018).

Overall results on customer satisfaction performance showed a mean score of 3.62 with a standard deviation of 1.03 meaning that growth in customer satisfaction was 1% - 10%. The indicators used to measure customer satisfaction were growth in the number of customers (M= 3.49, SD = 1.19, Speed of reaction to customer complaints M = 3.66, SD= 0.85, growth of reputation of firm brands had M= 3.72, SD -1.05. These results show that the performance growth of manufacturing firms in terms of customer satisfaction indicators during the three years preceding the study was between 1-10%.

The findings showed growth of employee welfare with a mean score of 3.26 with a standard deviation of 1.038 meaning that the performance of manufacturing in terms of employee welfare grew by 1% - 10%. Growth in employee welfare was measured in terms of; overall employee satisfaction (M = 3.54, SD =7.02), employee reward (M= 3.25, SD = 1.01). Investment in employee development (M =2.98 SD = 1.06).

The results showed that the performance of manufacturing firms in terms of social excellence, growth in performance had an overall mean of 3.27 and a standard deviation of 1.002 translating in a growth level of 1%-10%. Growth on social excellence was measured in terms of growth of expenditure on CSR programs (M =3.41 SD =1.002, employment of minorities (M =3.22, SD = 0.94), number of social programs (M =3.19, 1.16).

The findings showed that performance of manufacturing firms in terms of environmental stewardship had an overall mean of 3.79 with a standard deviation of 1.08 translating into a performance growth level of 1% -10% the indicators of environmental performance were use of recyclable materials (M=4.13, SD=1. 11) (whose high performance may be attributable to the implementation of the government ban on the use of plastics). Expenditure on solid waste
(M=3. SD=1.14) and energy-saving initiatives (M=3.79, SD=7.14).

The study results showed that performance in terms of the overall growth as depicted by corporate governance had a mean of 4.04 with a standard deviation of 1.06. This means that the performance of manufacturing firms in terms of corporate governance was 10% -20%. The drivers of corporate governance performance were hoard independence (M=4.17, SD = 1.07), the inclusion of new board members (M= 3.16, SD= 7.19), and review of policies by the board of directors (M=4.29, SD=0.99). These results show that the performance of manufacturing firms in terms of corporate governance grew by 20%.

4.5 Diagnostic Test Results

According to Garson (2012), the relationship between the dependent and independent variables should satisfy the assumptions of multiple regression. In this regard, the study

carried out diagnostic tests to test for compliance with the assumptions of multiple regression statistical techniques. The diagnostic tests carried out for this study were normality, linearity, multicollinearity, sample adequacy, and homoscedasticity as discussed under the methodology section.

4.5.1 Normality Tests

The study used Shapiro-Wilk's test to test for normality Garson, (2012) suggests that Wilk's test should not be significant if the assumption of normality is met. A significance level of P≥0.05 signifies that independent variables are normally distributed (Malhotra & Dash, 2011). Furthermore. Wooldridge (2000) suggests that if the condition of normality is met the plotted histogram should be bell-shaped. The study used a significance level of P = 0.05 to determine whether independent variables are normally distributed. The decision criterion for the Shapiro Wilk's test was to reject the null hypothesis that the observed scores are not significantly different from a normal distribution if P is significant. The results are presented in Table 4.17 below:

Table 4: 17 Results of K-S and S-W Tests for Normality

	Kolmogorov-Smirnov[a]		**Shapiro-Wilk**		**Remarks**
	Statistic	**Sig.**	**Statistic**	**Sig.**	
Adaptive Capability	0.069	0.027	0.988	0.093	Normal
Marketing Capability	0.060	0.090	0.988	0.117	Normal
Alliancing Capability	0.043	0.200*	0.988	0.103	Normal
Managerial Capability	0.053	0.200*	0.989	0.157	Normal

*This is a lower bound of the true significance

a. Lilliefors Significance Correction

Source: Survey Data, (2020)

The results show that the Shapiro-Wilk-Statistics for the variables were adaptive capabilities 0.988. (P=0.093.s), marketing capabilities, 0.988, (P=0.117, s), alliancing capabilities 0.988. (P=0.103.s), managerial capabilities 0.989, (P=0.157, s), firm

competence 0 992, (P=0.340). Firm Size 0.989, (P=0.162), firm performance 0.994, (P=0.634). All the variables had a P-value greater than 0.05. Furthermore, data on the variables was also plotted on histograms which showed that it followed a bell-shaped curve of normal distribution pattern as shown in Appendix 1. The study, therefore, failed to reject the null hypothesis that the data is not significantly different from a normal distribution.

4.5.2 Test for Linearity

In this study, the Pearson's correlation coefficient was used to test compliance with the assumption of linearity as recommended by (Wooldridge, 2000). According to Field (2009), if the r is close to -1 or +1, two variables are close to a perfect linear relationship. When the r is close to 0, there is little or no correlation. The study, therefore, used the criteria: if the r≠0, fail to reject the null hypothesis that there is a linear relationship between the independent and the dependent variable. The results of Pearson's correlation analysis are shown in Table 4.18 below:

Table 4: 18 Pearson's Correlation Table

Variable	Adaptive Capability	Marketing Capability	Alliancing Capability	Managerial Capability	Firm Performance
Adaptive Capability	1.000				
Marketing Capability	0.640**	1.000			
Alliancing Capability	0.591**	0.482**	1.000		
Managerial Capability	0.626**	0.690**	0.584**	1.000	
Firm Performance	0.592**	0.555**	0.585	0.585	1.000
Sig	0.000	0.000	0.000	0.000	0.000
N	190	190	190	190	190

**Correlation is significant at the 0.01 level (2 tailed)
Source Survey Data, (2020).

The results show that adaptive capabilities and firm performance had a correlation coefficient (r =0.592), marketing capabilities had (r = 555) alliancing capabilities (r = 0.597), managerial capabilities (r = 585), firm competence r = 0.593, a correlation coefficient of r = 0.531 and finally firm size and firm performance had a correlation of r=-0.140. Since all the independent variables had r > 0, the study concluded that there was a linear relationship between all the independent variables and the dependent variable. This finding showed that data adhered to the linearity assumption of multiple regression. Scatter plots in Appendix II also show a linear relationship between all the independent variables and the dependent variable.

4.5.3 Test for Multicollinearity

The study also conducted a multicollinearity test to ensure that independent variables were not highly correlated. The study used Variance Inflation Factors (VIF) to test for multicollinearity. The results of the analysis are shown in Table 4.19 below.

Table 4: 19 Results of VIF and Tolerance Tests

Variable	Tolerance	VIF	Remarks
Adaptive Capability	0.447	2.238	No Multicollinearity
Marketing Capability	0.459	2.177	No Multicollinearity
Alliancing Capability	0.574	1.741	No Multicollinearity
Managerial Capability	0.370	2.705	No Multicollinearity
Firm Competence	0.558	1.793	No Multicollinearity
Firm Size	0.964	1.038	No Multicollinearity

Source: Survey Data, (2020)

According to Field (2009), VIF values greater than 10 or Tolerance values below 0.1 indicate elevated levels of a multicollinearity problem. This study, therefore, set a threshold of (VIF < 10) and Tolerance value of ($T \geq 0.01$) to interpret that there is no problem of multicollinearity. The results in Table 4.19 show that there was no threat of multicollinearity since all the variables had VIF of less than 10. Similarly, all the

variables had a Tolerance value of more than 0.1. The findings, therefore, show that multicollinearity assumption was adhered to.

As a confirmatory measure, the study examined the correlation coefficients between the independent variables. According to Field, (2005), a correlation coefficient of more than 0.7 between the explanatory variables is considered significant and therefore indicative of a serious Multicollinearity problem Table 4.18 shows that no two explanatory variables had a correlation coefficient exceeding 0.7 and it was therefore found that the assumption of no multicollinearity between the independent variables was complied with.

4.5.4 Test for Homoscedasticity

This study used the Levene test to test for homoscedasticity as suggested by Field (2013). Where the values of the Levene test probability statistics are more than a significant level of P = 0.05 it means that the variances are equal. P-Value should be greater than 0.05 to meet the homoscedasticity assumption and allow further analysis using the regression model. The results show that all the variables had Levene statistics with a p-value greater than 0.05. Consequently, the study failed to reject the null hypothesis that the data was homoscedastic, thus the assumption was complied with. The results of the Levene test are shown in Table 4.20 below:

Table 4.20 Test of Homogeneity of Variances

Variable	Levene Statistic	df1	df2	sig	Remarks
Adaptive Capability	0.485	1	190	0.487	Equal Variance Assumed
Marketing Capability	1.377	1	190	0.242	Equal Variance Assumed
Alliancing Capability	3.488	1	190	0.063	Equal Variance Assumed
Managerial Capability	2.106	1	190	0.148	Equal Variance Assumed
Firm Competence	9.638	1	190	0.104	Equal Variance Assumed
Firm Size	0.326	1	190	0.569	Equal Variance Assumed
Firm Performance	0.530	1	190	0.468	Equal Variance Assumed

Source: Survey Data, (2020)

The study also conducted the Breusch-Pagan Heteroskedasticity test to test whether the data followed the assumption of homoscedasticity and could, therefore, be used for multiple linear regression. In this test, if the P-value is less than 0.05, the null hypothesis that there is no Heteroskedasticity is not rejected to mean that the data is not homoscedastic. If P≥0.05, fail to reject the null hypothesis to mean that there is no Heteroskedasticity and that the data is homoscedastic. The results of the Breusch-Pagan-Godfrey test are shown in Table 4.21 below:

Table 4. 21 Breusch-Pagan and Koenker Test

	LM	Sig	Conclusion
Breusch-Pagan	12.169	.058	No Heteroskedasticity
Koenker	14.217	.027	No Heteroskedasticity

Source: Survey Data, (2020)

The result of the Breusch-Pagan showed a value of P=0.58 which was more than the significant level of P=0.05. The study, therefore, rejected the null hypothesis that the data was heteroscedasticity and found that the assumption of homoscedasticity had been complied with.

4.5.5 Kaiser-Meyer-Olkin (KMO) Test for Sample Adequacy

The study conducted the Kaiser-Meyer-Olkin test for measuring sample adequacy to subject the data collected to inferential statistics. According to Field (2009), the data set is considered adequate for appropriate statistical analysis when the value of the KMO statistic is greater than 0.65. Table 4.22 summarizes the results of the KMO test.

Table 4: 22 KMO and Bartlett's Test

Kaiser-Meyer-Olkin test of Sampling Adequacy		0.877
Bartlett's Test of Sphericity	Approx. Chi-Square	582.694
	df.	21
	Sig.	0.000

Source Survey Data, (2020)

Table 4.22 shows the KMO statistic for the sample used for the study was 0.877 which was higher than the threshold of 0.65 as recommended by Field (2009), implying that the data set was adequate for inferential statistical analysis. A summary of the results of the diagnostic tests is shown in Table 4: 23 below:

Table 4. 23 Summary Results of Diagnostic Tests

ASSUMPTION	TEST	RESULT
Normality	Shapiro-Wilk Test	S-W Test statistics had P-values > 0.05 for all variables showing that data was normally distributed
Linearity	Pearson Correlation	r ≠0 and were significant at P-values < 0.05 for all the independent variables showing that they were linearly related to the dependent variable.
Multicollinearity	VIF & T	The results suggested the absence of multicollinearity since VIF < 10 and T≥0.01) for all variables
Homoskedasticity	Levene test	P-values > 0.05 for all items indicating that there was no problem of Heteroskedasticity.
Sample adequacy	Kaiser-Meyer-Olkin	The value of KMO statistic is greater than 0.65 showing that the sample was adequate for statistical analysis

Source: Research data (2020)

4.6 Tests of Hypotheses

The study used a multiple linear regression model to test the effect of dynamic capabilities on the performance of food manufacturing firms in Kenya. Cooper and Schindler (2011) recommend that multiple linear regression is suitable for studies involving many independent variables as was the case in this study. The study tested six hypotheses. Hypotheses one to four sought to test the direct effect of adaptive capability, marketing capability, alliancing capability, and managerial capability on the performance of food manufacturing firms. Hypothesis five and six sought to test the mediating and moderating effect of firm competence and firm size on the relationship between dynamic capabilities and performance of food manufacturing firms.

The study investigated the extent to which the predictor variables explained variation in the performance of food manufacturing firms. Additionally, the study established model significance by conducting an ANOVA test to find out whether the model was suitable for further statistical analysis. This was done by computing F statistics and its corresponding P-values. The researcher used the criteria for comparing the P-values of F statistics with a significance value of 0.05. If the P-value of F statistics was less than 0.05, the study concluded the model is significant and can be used for further statistical analyses and vice versa. This was followed by the computation of coefficients of predictor variables. Multiple regression analysis was conducted at a 95 percent confidence level ($\alpha = 0.05$) with firm performance as the dependent variable and adaptive capability marketing capability, alliancing capability, and managerial capability as the independent variables. The results of the regression are shown in Table 4.24 below**:**

Table 4. 24 Direct effect of Dynamic Capabilities on Performance

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	0.699[a]	0.489	0.478	0.46915		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39.006	4	9.751	44.305	.000[b]
	Residual	40.718	185	0.220		
	Total	79.724	189			
Coefficients						
		Unstandardized		Standardized		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.888	0.217		4.096	0.000
	Adaptive Capability	0.195	0.073	0.205	2.662	0.008
	Marketing Capability	0.161	0.077	0.164	2.097	0.037
	Alliancing Capability	0.252	0.059	0.298	4.303	0.000
	Managerial Capability	0.138	0.066	0.169	2.096	0.037

a. Dependent Variable: Firm Performance

b. Predictors: (Constant), Adaptive Capability, Marketing Capability, Alliancing Capability, Managerial Capability

Source: Survey Data, (2020)

The model fitted had an Adjusted R Square = 0.489 which shows that dynamic capabilities (adaptive capability, marketing capability, alliancing capability, and managerial capability) explained 48.9% of the variation in the firm's performance. The remaining 51.1% was explained by other variables other than the ones in the model. These findings show that dynamic capabilities are significant predictor variables of firm performance. The findings agreed with Ambrosini and Bowman (2009), Easterby-Smith and Prieto (2008) and Teece, (2008) who found that dynamic capabilities significantly enhance firm performance.

The ANOVA results show F (4, 189) = 44.305 (which is greater than the critical F value of 2.42) and p-value < 0.001 (which was less than 0.05.) The study, therefore, failed to reject the null hypothesis that the model fitted had the goodness of fit. These results found that dynamic capabilities significantly explained the performance of manufacturing firms in Kenya and the model was statistically significant and adequate to predict performance.

The Beta coefficients showed that all the independent variables had a significant effect on the dependent variable. Adaptive capability had β=0.205, P-0.008). Marketing capability β = 0.164, P=0.037 Alliancing capability had β 0.298, P=0.000 managerial capability β = 0.169 P=0.037). These results show that if all the variables (adaptive capability, marketing capability, alliancing capability, and managerial capability) are held constant, the performance of manufacturing firms in Kenya would be 0.888.

The results also show that if all the other factors were held constant a unit increase in adaptive capability would increase performance by 0.205 units. Similarly, a unit increase in marketing capability holding other factors constant would increase

performance by 0.164 units. Also, a unit increase in alliancing capability holding other factors constant would increase performance by 0.298 percent while a unit increase in one percent of managerial capabilities would increase performance by 0.169 units Based on the magnitude of each variable, in predicting performance, the study found that alliancing capability had the highest influence. Based on the results of the regression analysis the regression model was estimated in the equation below as follows:

$Y=0.888+ 0.205AC +0.164MC +0.298LC+0.169GC + \varepsilon$ (Model 3:1)

Where:

Y= Performance (Dependent Variable)

AC- Adaptive Capability

MC- Marketing Capability

LC=Alliancing Capability

GC-Managerial Capability

e = Error term

4.6.1 Test of Hypothesis One

The first objective was to assess the effect of dynamic capabilities on the performance of food manufacturing firms in Kenya. The study sought to test the null hypothesis that adaptive capabilities have no significant effect on the performance of food manufacturing firms in Kenya. The decision criteria were to fail to reject H_{01} if $\beta_1= 0$ and $P > 0.05$. The results of multiple regression in Table 4.23, show that adaptive capabilities had $\beta_1=0.205$, p-value=0.008. Since $\beta_1 \neq 0$ and p were less than the significant level of 0.05, the study rejected H_{01} implying that adaptive capabilities have a positive and significant effect on the performance of food manufacturing firms in Kenya.

The findings further show that an increase in adaptive capabilities by 1% would result in an increase in performance by 0.205%. In considering the financial aspect of performance, the descriptive statistics indicated that the firms on average registered a growth of between 1- 10% implying that there was an increase in sales, profits, and market share. This performance was partly attributed to adaptive capabilities. Based on the results of multiple regression the conclusion drawn was that adaptive capability has a significant and positive effect on the performance of food manufacturing firms. The results and conclusion were explained in terms of the conceptual nature of adaptive capabilities, the dynamic capability theory, descriptive data, and previous studies. The first basis of an explanation of the findings of H_{01} is the conceptual nature of the independent variable.

Adaptive capability by their nature helps firms to reconfigure their resources to adapt to the changing business environment. Through continuous adaptation, and reconfiguration firms obtain a viable fit with their external environment so that the organization responds to emerging opportunities and threats and be able to sustain performance. Theoretically, adaptive capabilities provide a highly valuable contribution towards firm performance in that they offer the needed flexibility for dealing with environmental complexity in a rapidly changing environment.

The results of the analysis of descriptive data show that the respondents' firms were, to a high extent committed to creating adaptive capabilities in the form of horizon scanning ability, change management ability, and resilience. TMTs are the custodians of adaptive capabilities in organizations. They use horizon scanning to detect early signs of potentially important developments through systematic information gathering and analysis which enables them to predict potential threats and opportunities,

innovative technologies, and their effects on the business. Using this information, they develop strategies for anticipating future developments. Information gathered through horizon scanning also feeds into the scenario development process.

Following information analysis and review of resources, strategies, and procedures, TM|T's in food manufacturing firms employ change management techniques to configure and reconfigure their resources to seize opportunities, anticipate and neutralize threats, build resilience, and sustain performance. Adaptive capabilities support performance by enabling firms to respond to signals of discontinuous complex and unpredictable change. The findings of this study support those of previous studies s by Cabral (2014), Kaehler, Busatto, Grace, Hansen, and Santos (2014), Eshima and Anderson (2016) and Ali, Sun, and Ali (2017). These studies concluded that adaptive capabilities have a direct and positive effect on performance. Studies by Eisenhardt and Martin (2000), and Protogerou, Caloghirou, and Lioukas (2011) however reported that adaptive capabilities indirectly influence firm performance. Zhu, Su & Shou, (2016) for instance found that adaptive capability mediates the effect of between business ties on firm performance.

These findings contribute to the knowledge of strategic management in several ways. First, they provide more understanding of how firms use adaptive capabilities to impact firm performance. Second, they contribute to the discourse on why some firms perform better than others by showing that adaptive capabilities can influence the level of performance Third, they contribute to the debate as to whether adaptive capabilities directly or indirectly influence performance by demonstrating that they have a direct and positive effect.

4.6.2 Test of Hypothesis Two

The second objective of the study was to determine the effect of marketing capabilities on the performance of food manufacturing firms in Kenya. The study, therefore, tested the hypothesis that marketing capabilities have no significant effect on the performance of food manufacturing firms in Kenya. The decision criteria were to fail to reject H_{02} if, $\beta_1 = 0$ and $P > 0.05$. The results in Table 4.25 show that marketing capabilities had $\beta_2 = 0.164$, p-value = 0.037. Since $\beta_2 \neq 0$ and p was less than 0.05, the finding shows that a 1% increase in marketing capabilities would result to 0.164 % increase in firm performance. H_{02} was therefore rejected and the alternative hypothesis was taken to hold implying that marketing capabilities have a significant effect on performance of food manufacturing firms in Kenya. The study therefore concluded that marketing capabilities have a positive and significant effect on performance of food manufacturing firms in Kenya. Findings are explained in terms of the dynamic capabilities theory, descriptive characteristics, and previous studies on the variable.

A basic concept in marketing is that to achieve success, firms must use marketing capabilities to position their products the marketplace in such a way that consumers believe they need their products and that those products have a particular benefit. In practice a firm's marketing strategy is designed by top management and works within the direction provided by the overall corporate strategy. It interacts with other elements of the corporate strategy and defines how the company will use marketing capabilities to target, position, market and sell its products. The current study, conceptualized marketing capabilities of food manufacturing firms in terms of market sensing, customer relationship management and brand management.

In strategic management, the principal idea behind the concept of a strategic window is that there are only limited periods during which the link between the key requirements of a market and the particular competencies of a firm competing in that market is at an optimum. Consequently, investment in new product lines or a market area is timed to coincide with periods during which a strategic window is open. Scholars have argued that to attain long term success, firms develop marketing capabilities that enable them to collect information about market opportunities, develop goods and services to meet the needs of customers in selected markets, and price these products according to market information when the strategic window is open. Findings from descriptive statistics show that food manufacturing firms, to a moderate extent use market sensing capability to scan the environment for strategic windows and threats through expending resources on market research and monitoring of market trends.

Firms use market sensing capabilities to sense signals in the market. Firms analyze information gathered using market sensing capabilities and use it to foretell and anticipate customer explicit and latent needs. The result of the analyses and forecasts is used to develop new products or employ existing products with new features and attributes to satisfy both the needs of current customers and new customers thus ensuring stability and survivability. Marketing capabilities support the performance of firms by ensuring informed market responsiveness to changing customer needs.

The study observed that 43% of the respondents had an annual sales turnover of over Ksh 50 million in terms of market share, 71.1 % of the respondents' firms held a market share below 20%. Managing customer relationships is a key aspect of marketing which is in turn a building block for firm success. Firms use customer relationship management capabilities to persuade the ultimate consumers to buy their

products and persuade others that what it sells meets their needs. Customer relationship management capabilities help firms to communicate product advantages to potential customers and distribute products to customers. In this regard, the results of the descriptive statistics of the current study have shown that to a moderate extent, food manufacturing apply their collective knowledge, skills, and resources to the market-related needs, thus enabling them to add value to their customers and be competitive.

Customer relationship management capabilities support performance by enabling firms to retain and expand their sales volumes through customer loyalty. Most of the respondents indicated that their firms did not provide adequate budgets for market research and branding activities and this may explain a large number of firms with small market share. A key component of marketing in food manufacturing firms is the competitive positioning of products in the minds of the customers. Because of its dependence on communication, marketing demands a discriminating brand name or trademark to identify the products. The results of descriptive statistics show that to a considerable extent, firms use brand management capabilities to create customer loyalty, persuade the new buyers, and establish an emotional connectivity with the customers and influence consumer's perception and attitude toward their brands. Brand management capabilities support firm performance by ensuring that firms retain and expand their share of the market.

The findings of the current study previous studies done by Morgan, Slotegraaf & Vorhies (2009); Azizi, Movahed & Khah, (2009); Vijande, Pérez, Gutiérrez & Rodriguez, (2012) and Morgan, Vorhies & Mason, (2009). These studies focused on the effect of marketing capability on performance and reported that marketing capabilities have a direct effect on firm performance. The current study agrees with

these studies to the extent that marketing capabilities have a positive and direct effect on performance. The findings contradict those of Afzal. (2009) that marketing capabilities have a moderating effect on firm performance. Similarly, Sok, Snell, Lee & Sok (2017) found that marketing capabilities impact performance by both mediating and moderating the effect of entrepreneurial orientation on performance. Min, Jason,& Kevin (2018) found that the effect of marketing capabilities on performance is less effective when firms face market uncertainty.

These findings contribute to the body of knowledge of strategic management in several ways. First, it contributes to the discussion on the actual role of marketing capabilities on performance by providing empirical evidence that marketing capabilities have a direct effect on performance in the context of food processing firms in Kenya. Secondly, the findings show that there is a relationship between marketing capabilities and performance when considering both financial and non-financial measures.

4.6.3 Test of Hypothesis Three

The third objective of the study was to establish the effect of alliancing capabilities on the performance of food manufacturing firms in Kenya. The study tested H_{03} that alliancing capabilities have no significant effect on the performance of food manufacturing firms in Kenya. The decision criteria were to fail to reject H_{02} if $\beta_3=0$ and P-value are> 0.05. The results show that alliancing capabilities had $\beta_3=0.298$ and p-value < 0.001. Since $\beta_3\neq0$ and p were less than 0.05, H_{03} was rejected and the alternative hypothesis accepted implying that alliancing capabilities have a significant effect on the performance of food manufacturing firms in Kenya.

The finding implied that a unit increase in alliancing capabilities would result in a 0.298-unit increase in firm performance. The study, therefore, concluded that alliancing capabilities have a significant and positive effect on firm performance of food manufacturing firms in Kenya. These findings were explained by the conceptual nature of the variable, the RBV theory, the Dynamic capabilities theory, and the demographic data on the variable, descriptive statistics, and previous studies.

Conceptually, alliancing is a corporate strategy where firms interact with the partial congruence of interests whereby, they cooperate to reach a higher value creation if compared to the value created without interaction and compete separately to increase their market share. They are used to develop a collection of value-creating resources that a firm cannot create independently. Few food manufacturing firms in Kenya have all the resources needed to compete effectively in the current dynamic landscape. Thus, firms seek access to the necessary resources through alliances. As articulated by Anand and Khanna, (2000) it is a firm's alliance capabilities that influence the ability of firms to create and capture value, through alliances. In line with the RBV, alliancing capabilities are an intangible asset that food manufacturers can use to influence the operating environment and thus enhance performance through the reduction of the external cost of doing business. The current study conceptualizes alliancing capabilities in terms of alliance experience, inter-organizational coordination, and partner identification propensity.

Alliancing capabilities enhance firm performance by enabling them to overcome resource constraints, enter new markets, and hedge against environmental uncertainties, and even create options to expand. The study found that food manufacturing firms in Kenya have, to a large extend used alliance experience to lobby

for favorable government regulations, jointly fight counterfeit, setting industry standards, negotiate for favorable tax regimes, and to share information about industry trends.

Regarding inter-organizational coordination, the study found that food manufacturing firms encourage their managers to participate in the leadership of industry associations. The descriptive statistics also show that the respondent firms have managers responsible for intra industry partnerships and they frequently review their alliance portfolios. This coordination supports firm performance through endorsement and recognition by peers and builds a reputation for the firms and their brands. Trust by peers and customers explains why most of the firms have been resilient for more than 10 years since inception.

On partner identification propensity, the study found that food manufacturing firms use alliance capabilities to identify potential partners, initiate and termination relationships all the firms were members of an industry association, and were constantly looking for partners. The firms also indicated that they had created partnerships with farmers and suppliers to secure the stability of prices and raw material. For instance, the beverage manufacturing firms had contractual arrangements with barley and sorghum farmers where prices and quantities were agreed to ensure that there was no disruption in the supply of raw materials. Similarly, the grain millers participated in the Cereal Growers Association where grain prices were negotiated to stabilize prices. This study follows the direction set by Rotharmel and Deeds (2006); Schreiner, Kale, and Corsten, (2009); Phapruke, Intakhan, and Nantana, (2010) and Ziggers and Tjemkes (2010). These studies focused on the role of alliancing capabilities on performance and reported that showed that firms capable of deploying their alliance capability in the entire alliance

process gain better results from their alliances. The findings on this variable agree with these other studies to the extent that they show that a firm's performance is positively correlated to its alliance capability.

The findings of this study have contributed to the body of knowledge on strategic management by providing more understanding of the role of alliancing capabilities on the performance of food manufacturing firms in Kenya. Secondly, it positions alliancing as a form of coopetition which can be used as a mechanism for dealing with competition. Third, this study included some measures of alliancing capability such as new partner identification capability which had been left out by most previous studies on the relationship between alliancing capabilities and firm performance.

4.6.4 Test of Hypothesis Four

The fourth objective was to examine the effect of managerial capability on the performance of food manufacturing firms in Kenya, the study, therefore, tested H_{04} that managerial capabilities have no significant effect on the performance of food manufacturing firms in Kenya. The decision criteria were to fail to reject H_{04} if $\beta_4=0$, and the p-value was more than 0.05. The results of multiple regression show that managerial capabilities had $\beta_4= 0.169$, p-value =0.037. Since $\beta_4 \neq 0$ and p-value was less than 0.05. $\beta=0$ (H_{04}) was rejected and the alternative hypothesis was accepted implying that managerial capabilities positively and significantly affected the performance of food manufacturing firms in Kenya. The findings implied that a 1% increase in managerial capabilities would results to 0.169 % increase in firm performance. The study, therefore, concluded that managerial capabilities have a strong and positive effect on the performance of food processing firms.

These findings are explained by the conceptual nature of the variable, upper echelons theory, cognitive theory, and demographic characteristics of the respondents, descriptive data, and previous studies on the variable. The current study conceptualized managerial capabilities in terms of management style, people development, managerial human capital, and succession planning. The descriptive statistics on the variable show that management of food manufacturing firms had built managerial capabilities in terms of human capital management style people development and succession planning) the results also showed that the firms had employed line managers with functional experience to enable them to efficiently perform their tasks. The study results also show that firms had encouraged their managers to create social capital through social ties such as friendships social club memberships, directorships of other companies and transfer the goodwill and knowledge that these lies confer to their influence to work settings.

Theoretically as pointed out by Fredrickson (2001), because it is not possible for all managerial characteristics needed in an organization to reside in one person no matter how talented, firms rely on the collective knowledge and capabilities residing in top management teams to deliver performance. Top echelon teams are the custodians of the managers' dominant logic which represents management's view of the world where the firm stands in its business environment, and what it ought to be doing. This dominant logic is shaped by managerial capabilities possessed by managers. As pointed out by Penrose (1959), a firm's repository of proprietary firm-specific knowledge held by its managers determines the speed at which a firm can take advantage of emerging opportunities in its domain of business. In line with the cognitive theory of the firm, knowledge structures residing in top management teams are employed as mental

templates for decision making. As indicated by Helfat and Raubitschek (2000) managers have perceptions and knowledge of the firm's resources, its business environment, its customer base, and its competitive challenges. The demographic characteristics show that 86.3% of the respondent managers had worked in the same firm for more than 4 years. Based on previous experiments, accomplishments, and failures during this period managers have developed these cognitive lenses through which they perceive and interpret the world.

Managerial capabilities shape the performance of food manufacturing firms by enabling Top Management teams to configure and coordinate firm resources in such a way that the firm achieves performance. Business success, therefore, depends on TMT's stock of managerial capabilities and mental templates of what success looks like, and how resources are to be deployed. \It was observed that 94.7% of the respondents had over 6 years of work experience in firms that had existed in the industry for the same period of six years.

The findings of the current study agree with those of previous studies by Tripsas and Gavetti (2000), Adner and Helfat (2003), Eggers and Kaplan, (2009), Simon and Tlit, (2009), Bellner and MacLean, (2015), Kabongo and Boiral, (2017), Ali, Sun, and Ali (2017). Kor and Mesko, (2009) Ahmed, (2017) and Sreckovic, (2017). Tonui & Otinga (2019). These studies focused on the effect of managerial capabilities on performance and reported that performance in firms depends on the application of managerial capabilities. A similar view was held by Helfat & Martin (2014) who found that managers differ in their impact on strategic change and firm performance and that differences in managerial capabilities lead to a difference in performance. Poh, Mimin & Anthony (2019) however fund that managerial capabilities mediate the relationship

between family member characteristics and performance of family businesses. The study also contradicts the findings of Abo & Edgar (2019) who found that managerial capabilities have a moderating effect on performance.

The findings of the current study add to the body of knowledge on strategic management first by offering an additional understanding on the role of managerial capability on performance. Second, the findings show how managerial capabilities interact with performance in the presence of other dynamic capabilities. The study also provides more information to emphasize the role played by the management team in firm success.

4.6.5 Test of Hypothesis Five

The fifth objective was to establish the mediating effect of firm competence on the relationship between dynamic capabilities and the performance of food manufacturing firms in Kenya. To this end, a null hypothesis assuming the firm competence does not have a mediating effect on the performance of food manufacturing firms in Kenya was formulated. The study used the causal steps approach adopted by (Kenny & Barney 1986) to test for the mediating effect.

According to Mackinnon (2011), variable M is a mediator if X significantly accounts for variability in Y, X significantly accounts for variability in M, M significantly accounts for variability in Y when controlling for X, and the effect of X on Y decreases significantly when M is introduced to the module predicting Y from X The study therefore tested the mediation effect using the causal steps method developed by (Baron and Kenny, 1986) to investigate whether the relationship between the three variables against these criteria at a significant level of P=0.05.

On the first step, firm performance was regressed on dynamic capabilities to test whether dynamic capabilities significantly accounted for the variability in the firm performance of food manufacturing firms. The results of the analysis are summarized in Table 4.25 below:

Table 4. 25 Step 1 Total Effect of Dynamic Capabilities on Performance

Model Summary

	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.655[a]	0.429	0.426	0.49226

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.167	1	34.167	141.000	0.000[b]
	Residual	45.556	188	0.242		
	Total	79.724	189			

Coefficients

		Unstandardized		Standardized		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.076	0.211		5.094	0.000
	Dynamic Capabilities	0.693	0.058	0.655	11.874	0.000

a. Dependent Variable: Firm Performance

Source: Survey Data, (2020)

The results show adjusted R-square =0.426 which implied that dynamic capabilities accounted for 42.6% of the variation in firm performance of food manufacturing firms in Kenya. The results for ANOVA F-statistics = 141.000, (P = 0.000) show that the model was statistically significant. This means that dynamic capabilities are a significant predictor of the performance of food manufacturing firms. The results for the regression coefficient show that dynamic capabilities had β= 0.655 and P-value=0.000 which is significant at $P < 0.05$ and falls within the confidence interval. This means that changing dynamic capabilities by 1% would increase the performance of food manufacturing firms by 0.655 %. Thus, the relationship between dynamic capabilities and performance can be estimated in the following equation.

$Y=1.076 +0.655\ DC + \varepsilon$ ……(Model 3.2)

The results show that there exists a significant relationship between dynamic capabilities and performance that can be mediated.

4.5.7.2 Step 2: Dynamic Capabilities Predicting Firm Competence

The third model was fitted to test whether there is a significant interaction between the predictor (dynamic capabilities) and the mediator variable (firm competence). The results of the analysis are summarized in Table 4.26 below:

Table 4: 26 Step 2 Relationship between Dynamic Capabilities and Firm Competence

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.646[a]	0.417	0.414	0.84740

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	95.730	1	95.730	133.312	0.000[b]
	Residual	133.564	186	0.718		
	Total	229.294	187			

Coefficients

Model		Unstandardized B	Std. Error	Standardized Beta	t	Sig.
1	(Constant)	-0.333	0.356		-0.934	0.351
	Dynamic Capabilities	1.141	0.099	0.646	11.546	0.000

a. Dependent Variable: Firm Competence

Source: Survey Data, (2020)

The results show that dynamic capabilities accounted for 41.4% (adj.R. Square =0.412) of the variation in firm competence. The study analyzed variance to determine the significance of the model. The results for ANOVA showed a (F-statistics = 131.312 (p=0.000). This confirmed that dynamic capabilities are a significant predictor of firm competence. The results for the regression coefficient show that dynamic capabilities composite had β- 0.646, p-value = 0.000, meaning that there is a significant interaction between dynamic capabilities and firm competence.

FC= -0.333+ 0.646 DC + ε …… (Model 3.3)

4.5.7.3 Step 3 and 4: Dynamic Capabilities and Firm Competence Predicting Firm Performance

In the third step, the model was fitted to test whether the firm performance of food manufacturing firms decreases significantly when firm competence is introduced to the model predicting performance from dynamic capabilities. The results of the analysis are captured in Table 4. 27

Table 4:27 Dynamic Capabilities on Performance in the Presence of Firm Competence

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.666[a]	0.443	0.437	0.78070

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	89.721	2	44.861	73.604	0.000[b]
	Residual	112.755	185	0.609		
	Total	202.476	187			

Coefficients

Model		Unstandardized B	Std. Error	Standardized Beta	t	Sig.
1	(Constant)	-0.209	0.329		-0.635	0.526
	Dynamic Capabilities	0.868	0.119	0.523	7.276	0.000
	Firm Competence	0.183	0.068	0.195	2.709	0.007

a. Dependent Variable: Firm_Peformance
b. Predictors: (Constant), Dynamic Capabilities, Firm Competence
Source: Survey Data, (2020)

The results of the goodness of fit shows an adjusted R Square = 0.437. This meant that dynamic capabilities and firm competence accounted for 43.7% of the variation in firm performance of food manufacturing firms. The study analyzed variance to determine the significance of the model. The results for ANOVA showed (F-statistics = 73.604(p = 0.000). This confirmed that the model significantly predicted the firm performance of manufacturing firms in Kenya. The results for regression coefficient show that dynamic capabilities (β = 0.523, P-value = 0.000) and firm competence (β= 0.195, p-

value = 0.007) showing that dynamic capabilities significantly predicted firm performance even after introduction of Firm Competence. The results are estimated in the equation below

$Y=- 0.209+ 0.523 DC+0.195FC +\varepsilon$ …….…. **(Model 3.4)**

The results show that the effect of Dynamic capabilities on performance in step 1 (β= 0.642) was higher than β_2=0.523 in step 3. Furthermore, adjusted R-squared increased when competence was introduced as a mediator. The analyses in steps 1-3 thus identified firm competence as a potential mediator of the relationship between dynamic capabilities and performance of food manufacturing firms. Table 4.28 shows a summary of the tests for mediation.

Table 4: 28 Summary of Mediation Effect

	Model			Change	Observation	
Parameter	1	2	3			
β_0	1.076	-0.333	-0.209	-1.285	Reject H_{04}	There is evidence of partial mediation
β DC	0.655	0.646	0.523	-0.132		
β FC			0.195	0.195		
Adj. R^2	0.426	0.414	0.437	0.011		
F	141.000	133.312	73.604	-67.396		
P	0.000	0.000	0.000			
Path a = 0.646, b = 0.195, c = 0.655, c'=0.523						

Source: Survey Data, (2020)

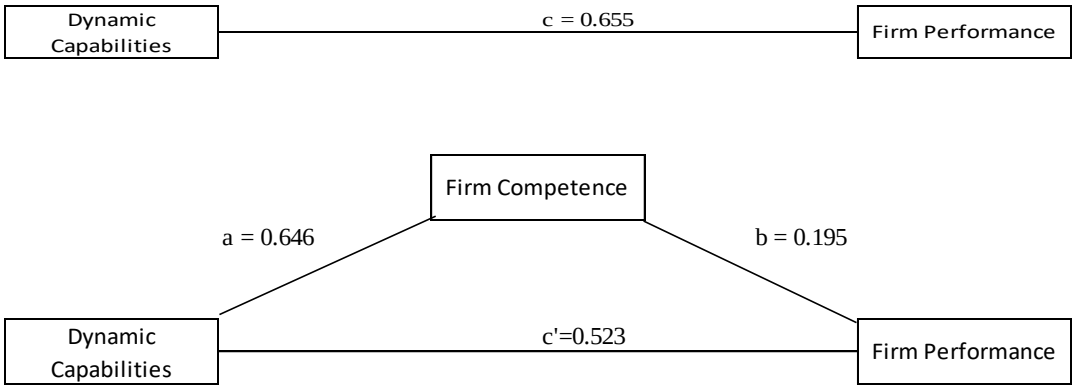


Figure 4.2 Path Diagram for Dynamic Capabilities, Firm Competence and Firm Performance
Source: Survey Data, (2020)

When firm competence is introduced in the model predicting firm performance from dynamic capabilities, β is reduced to 0.523 but remains significant at P=0.000. Furthermore, in model 1, dynamic capabilities account for 42.9% of the variation in firm performance but when firm competence is introduced in the model, both variables account for 43.7%. of the performance of food manufacturing firms

To determine the effect of firm competence on the relationship between dynamic capabilities and performance, the study used the difference in coefficients method based on information from regression equations in model 1, model 2, and Model 4 as recommended by Mackinnon, Lockwood, and Williams, (2004) and Baron and Kenny (1986). Table 4.29 shows the total, direct, and indirect effect of dynamic capabilities on the performance of food processing firms in Kenya. The mediating effect of firm competence is summarised in Table 4.29 below.

Table 4: 29 Total, Direct, and Indirect Effects of Dynamic Capabilities on Performance

		SE	Sig
Total Effect	0.655	0.49226	0.000
Direct Effect	0.523	0.78070	0.000
Indirect Effect	0.132		

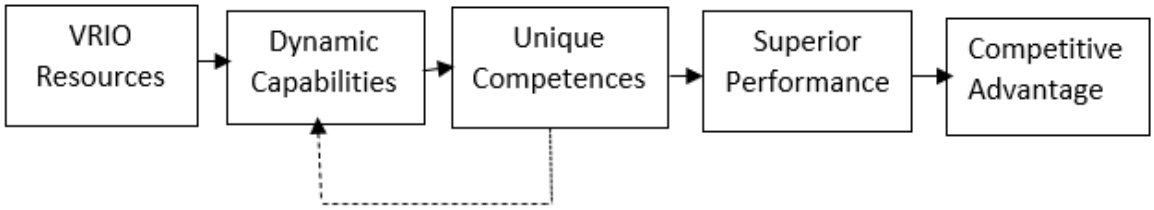
Source: Survey Data, (2020)

The study finds that firm competence contributes 0.132% of the effect of dynamic capabilities on the performance of food manufacturing firms in Kenya. The results showed a pattern of correlations consistent with the mediational hypothesis that the effect of dynamic capability on firm performance is mediated by firm competence. Based on the criteria set, the study concluded that Firm competence partially mediates the relationship between, dynamic capabilities and performance of food manufacturing firms.

Based on the test results, the study found that firm competences partially mediate the relationship between dynamic capabilities and firm performance of food manufacturing firms in Kenya. It, therefore, concluded that the level of performance. is dependent on the stock of firm competencies held by the firm. The findings and conclusions were explained by the conceptual nature of the variables, the competence-based theory, biographic characteristics, descriptive data, and previous studies on the variable.

Because of disruptive competition that is characteristic of today's business environment, organizations are counting more on their core competences to secure their financial situations and their market positions (Hamel & Prahalad, 1994). Firm strategy in manufacturing firms in Kenya is, therefore, shifting focus from competing for product or service leadership to competing in firm competence leadership.

The study conceptualized firm competence in terms of foundational competencies, technological competences, and functional competences. Findings from descriptive statistics showed that to a great extent, food manufacturing firms had built these competencies, and this had resulted in an increase in performance by 1-10%. The role of competences in the value chain is captured in the model in Fig. 5.1 below:



Source: Author (2020)

Fig. 5.1 Relationship between Resources, Capabilities Competences, and Performance.

Conceptually, firms use dynamic capabilities to configure their VRIO resources to create competences. With time they sharpen their unique competences to enable them to achieve superior performance to their peers. These competencies enable them to build higher-order capabilities which they use to create a new asset base. The circular process of using capabilities to sharpen competencies enables them to satisfy their customers in a way in which their peers cannot. As long as they can use their competences to satisfy the unique needs of their customers better than their peers, they retain a competitive advantage.

Firm Competences not only increase productivity in food processing firms, but they also enhance firm reputation which in turn enables the firms to command premium prices for its products, pay lower prices for inputs and entice top recruits which in turn helps in stabilizing performance. They influence performance by linking firms to their markets, allowing them to do things with a high degree of reliability and flexibility.

In line with the competence-based theory and Teece (2004), firm competencies that do not create non-imitable products are not core, do not give the firm sustainable performance. Unique products can only be made when the firm possesses highly specialized skills and equipment. They enable firms to develop a unique position in

relation to Competitors and to consistently outperform them (Azak, 2004). By building unique competencies, food manufacturing firms insulate themselves from the competition and can remain operational. By focusing on their core competencies, food manufacturing firms get a competitive advantage by doing the things which they excel at.

Data on the characteristics of food manufacturing firms shows that each food processing firm specialized in one core subsector and built competences in that one area only, For instance, flour milling, dairy processing edible oil manufacturing firms were not involved in any other food processing activity. Furthermore, the firms had taken measures to protect their specialized skills and competences from being poached by competitors, the study sought to establish how manufacturing firms in Kenya ensured that competences imbibed in their skilled staff were not poached by competitors.

Empirical literature indicates that there is a strong relationship between firm Competence and firm performance. The findings in this study support the findings of Hodgkinson and Sparrow, (2006); Dubey & Ali (2011), Agha, Alrubaiee & Jamhour, (2012); Özbağ, (2013); Jabbouri & Jahaz, (2014), Ayub & Odero (2017) Bahri &Yahya, (2015) that firm competence has a significant effect on performance. The findings of the study disagreed with those of Nguyen, (2008) who showed that competence does not have a significant effect on firm performance.

The findings of this study contribute to the general body of knowledge in several ways. First, the findings demonstrate that firm competence mediates the relationship between dynamic capabilities and performance. Second findings show that firm competence has

a direct and positive effect on performance thus shedding more light on how firm competence affects firm performance. Third, the findings provide additional answers to the question as to why some firms perform better than others by providing proof that firm competencies account for variability in performance.

4.6.6 Test of Hypothesis Six

The sixth objective of the study was to assess the moderating effect of firm size on the relationship between dynamic capabilities and firm performance. The study, therefore, tested H_{06}: Firm Size has no moderating effect on the relationship between dynamic capabilities on the performance of food manufacturing firms in Kenya. To test this hypothesis, the study adopted the two-step multiple linear regression recommended by Fairchild and Mackinnon (2009) and. Keppel and Zeddeck, (2000).The test involved investigating the relationship between the dependent and independent variables using the moderator as an explanatory variable and testing the same relationship with an interactive term between the moderator and the independent variable.

The study set two alternative criteria for determining whether there was a mediation effect on the relationship between the independent and dependent variables. First, if the change in coefficients is significant after introducing the interactive term, then size is a moderator. Three, if the change in R^2 from model 1 to Model 2 is significant after introducing the interactive term, then Firm Size is a moderator.

4.5.8.1 Step One in Testing for Moderating Effect of Firm Size

The first model was fitted with dynamic capabilities and firm size as a predictor variable. A summary of the model is shown in Tables 4. 30 below:

Table 4: 30 Dynamic Capabilities Predicting Performance in Presence of Firm Size

Model Summary					
R	R square	Adj.R Square	Std. Error of the Estimate		
0.659[a]	0.434	0.428	0.79756		
ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	90.858	2	45.429	71.418	0.000
Residual	118.314	186	0.636		
Total	209.172	188			
Coefficients					
	Unstandardized		Standardized	t	Sig.
	B	Std. Error	Beta		
(Constant)	-0.078	0.359		-0.217	0.828
Dynamic Capabilities	1.132	0.095	0.673	11.934	0.000
Firm SIZE	-0.108	0.058	-0.106	-1.878	0.062

a. Dependent Variable: Firm Performance, b Predictors: (Constant), Firm SIZE, Dynamic Capabilities

Source Survey (2009)

The model showed an R Square of 0.434 and adjusted R^2 = 0.428 meaning that the model explained 42.8% of the variation in the performance of food manufacturing firms in Kenya. The ANOVA results showed an F (2,188) = 71.418. P value=0.000. Since the P-Value was significant at a significant level of P=0.05, it was concluded that dynamic capabilities and firm size significantly predict the performance of food manufacturing firms. The regression results showed that dynamic capabilities had a standardized Beta coefficient of $\beta = 0.673$ with a significant p-value of 0.000. Firm Size had a negative Beta coefficient of (β=-0.106) and a P-value of 0.062 which was not significant. This implied that a unit increase in dynamic capabilities with everything else held constant would increase performance by 0.673 units while a unit increase in firm size would contract performance by -0.106 units. However, the impact

of firm Size on performance is not significant. The estimated model for step one was summarized as:

Y= -0.078+0.673DC-0.106FS + ε…….(Model 3.5)

4.5.8.2 Step Two in Testing for Moderating Effect of Firm Size

In the second step, firm Size (FS) was interacted with dynamic capabilities (DC) to create an interactive variable (DC*FS). The interactive variable was then introduced to the model as a moderator. The results of the interaction between DC, FS, and the interactive variable DC*FS are shown in Table 4.31 below:

Table 4. 31 Interaction between Dynamic Capabilities, Firm Size, and the Interactive Variable

Model Summary					
R	R square	Adj.R Square	Std. Error of the Estimate		
0.659[a]	0.434	0.425	0.79967		
ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	90.868	3	30.289	47.366	0.000[b]
Residual	118.304	185	0.639		
Total	209.172	188			
Coefficients					
	Unstandardized		Standardized	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.002	0.719		0.002	0.998
Dynamic Capabilities	1.072	0.473	0.638	2.269	0.024
Firm SIZE	-0.132	0.195	-0.129	-0.676	0.500
Interactive term	0.015	0.117	0.047	0.128	0.898

Dependent Variable: Firm Performance Predictors: (Constant), DC*FS, Dynamic Capabilities Firm SIZE

Source Survey Data, (2020)

The results show that after the introduction of the interactive term, the model had an adjusted R^2 of 0.425 meaning that it predicted 42.5% of the performance of food processing firms. The results show that the model had an F (3,189) = 47.366 with a

significant P-value-0.000 since P<0.05, the study concluded that the model significantly predicted performance of food manufacturing firms. The results showed dynamic capabilities had (β=0.638, P=0.024,) Firm Size had (β= -0.129, P=0.500) interactive term had (β = 0.047, P=0.898). This showed that firm size and the interaction between dynamic capabilities and firm size did not significantly affect the performance of food manufacturing firms. The model was then estimated as:

Y=-0.002+ 0.638DC - 0.129FS+ 0.047DC* FS +ε.....Model 3.6)

A summary of the results of the test for moderation is shown in Table 4.32

Table 4: 32 Summary of Tests for Moderation.

Parameter	Model		Change	Remarks
	1	2		
R^2	0.434	0.434	0.000	Fail to reject H_{06} there is no evidence that firm size moderates the relationship between dynamic capabilities and performance
Adjusted R^2	0.428	0.425	0.003	
βDC	0.673	0.638	0.035	
βFS	-0.106	-0.129	-0.235	
βDC* FS		0.047	-0.047	
F	71.418	47.366	24.052	
P-Value	0	0		

Source Survey Data, (2020)

The results showed that the coefficients denoting the relationship between dynamic capabilities and performance of food processing firms changed by 0.035 from 0.673 in Model 1 to 0.638 in model 2, implying that the effect of dynamic capability on firm performance remained direct and significant regardless of the firm size. Furthermore, the R^2 remained the same after the introduction of the interactive term. The results also show that when firm size was treated as moderating variable (DC*FS), it had a β =-0.047, p-value = 0.898. Based on the results of the test, it was concluded that firm size has no moderating effect on the relationship between dynamic capabilities and performance of food processing firms in Kenya. The study, therefore, failed to reject

$H_{06:}$ that firm size has no moderating effect on the effect of dynamic capabilities on the performance of food manufacturing firms in Kenya.

As a confirmatory measure, the study tested for moderation effect using the model developed by Hayes (2018) where he discards the two-step approach. Dynamic capabilities, firm size and performance were fitted in a model to test for moderation effect of firm size. The results of this analysis are shown in Table 4:33 below.

Table 4.33 Moderation Effect of Firm Size

Model Summary

R	R-sq	MSE	F	df1	df2	p
0.666	0.443	0.242	49.122	3.000	185.000	0.000
Model						
	β	se	t	p	LLCI	ULCI
Constant	0.923	1.399	0.660	0.510	-1.837	3.683
Dynamic Capabilities	0.797	0.375	2.123	0.035	0.057	1.538
Firm Size	0.032	0.382	0.085	0.933	-0.722	0.787
Interactive Variable	-0.026	-1.03	-0.251	0.802	-0.229	0.177
Test(s) of highest order unconditional interaction(s):						
	R^2-change	F	df1	df2	p	
DC*FS	0.000	0.063	1.000	185.000	0.802	

Source: Research Data (2020)

The Results showed an R^2 of 0.666 and P=0.000 meaning that dynamic capabilities and firm size predict 44.3% of the performance of food manufacturing firms. However, the ANOVA showed that dynamic capability had a significant effect on performance at β=0.797, P=0.035.Firm size had a β=0.032, P=0.933. While the interactive variable had β= -1.03, P=0.802 which was not significant. The R^2 change was 0.000 with a P=0.802 which was not significant. This showed that firm size had no significant effect on the effect of dynamic capabilities on firm performance. This confirmed that the earlier conclusion that firm size does not moderate the effect of dynamic capabilities on the performance of food manufacturing firms.

These results are explained in terms of the conceptual nature of the variable, the optimal theory of the firm, the context of the study, the descriptive statistics, and previous studies on the variable.) Conceptually, firms seek to increase their performance by growing their size to make profits for their owners De and Nagaraj (2014). Bigger firms are presumed as performing better than small firms because they tend to have more operational efficiency and market power. Because they have more access to financial resources, bigger firms can build dynamic capabilities which enable them to perform better Zahra and George, (2012) as they grow bigger, however, they become less flexible than smaller firms and become incapable of responding to changes in the market because of sunk costs and inertia. This implies that small firms can perform better because they are more agile and can reconfigure themselves to adapt to change than larger firms.

Theoretically and in line with the theory of optimal firm size, all firms seek to grow until they reach the minimum efficient scale point of production beyond which further growth is either technically impossible or unprofitable. Olawale (2017) observes that in conditions of imperfect competition, a firm's ability to perform in terms of growth grow is driven not by the size or stock of resources but by its dynamic capability to develop unique products and markets. Similarly, Penrose (1959) argued that the performance of firms is driven not by size in terms of stock of resources but by the knowledge base and capabilities of its managers. The findings of this study showed that it was dynamic capabilities and not the size which drives the performance of food manufacturing firms.

Traditionally, in line with the law of proportionate effect, performance in terms of firm growth is unrelated to firm size, and large and small firms have equal probabilities of

attaining a growth rate within any given period. Factors that affect growth may include managerial talent, innovation, changes in demand or taste, organizational structure, and luck as well. The theory suggests that the relationship between firm size and performance in terms of profit might be non-linear. The relationship between firm size and profit rates may be positive over some firm size ranges and negative for others.

The results from descriptive statistics showed that the size of the workforce is not considered as an important asset in food manufacturing firms in Kenya. Similarly, the respondent firms did not consider market share as a major source of competitiveness. The level of sales turnover did not give them the confidence to remain in the industry and the firms were not optimistic that they would remain in the industry. The study, therefore, concluded that firms did not consider size as a key driver of performance. The results confirm the findings of Yi and Tzu, (2005); Niresh and Velnampy, (2016) who concluded that size of the firm does not have any impact on the performance. The results contradict the findings of Chi, (2004); Lee, (2009); Becker *et al (*2010); Shubita and Alsawalhah. (2012); Ali, Mukulu, Kihoro, and Nzulwa, (2016) who found a significant impact of firm size on performance.

These findings contribute to the general body of knowledge on the effect of firm size as a moderator of the relationship between dynamic capabilities and performance in several ways. First, it contributes to the discourse on the effect of size on the performance firms by showing that firm size does not have a significant effect on performance. Second, Previous studies on the relationship between firm size and performance used only financial indicators for the dependent variable. The current study took the TBL approach and added environmental, social excellence, and corporate governance indicators of performance to the traditional financial indicators.

None of the studies reviewed for this study used the TBL approach. Third, the study provides empirical evidence to show that firm size does not significantly moderate the relationship between dynamic capabilities and performance of food manufacturing firms.

4.6.7 Overall Summary of Test of Hypotheses

Table 4. 33 presents a summary of the tests of hypotheses.

Table 4: 33 Summary of the Test of Hypotheses

Hypotheses	**Findings**	**Decision**	**Conclusion**
H_{01}: Adaptive Capabilities have no significant effect on Performance of Food Manufacturing firms in Kenya	Y=0.888+0.205AC+0.164MC +0.298LC+0.169GC + ε **(model 3:1)** β_1=0.205, P=0.008<0.05	Rejected H_{02}	Adaptive capability has a significant effect on the performance of food processing firms in Kenya
H_{02}: Marketing Capabilities have no significant effect on Performance of Food Manufacturing firms in Kenya	Y=0.888+0.205AC+0.164MC +0.298LC+0.169GC + ε β_2=0.164. P-0.037 <0.05	Rejected H_{02}	Marketing capability had a Significant effect on the performance of food processing firms in Kenya
H_{03} Alliancing Capabilities have no significant effect on Performance of Food Manufacturing firms in	Y=0.888+0.205AC+0.164MC +0.298LC+0.169GC + ε β_3=0.298 P=0.000 <0.05	Rejected H_{02}	Alliancing capability has a significant effect on the performance of food processing firms in Kenya
H_{04}Managerial capability had a significant effect on the performance of food processing firms in Kenya	Y=0.888+0.205AC+0.164MC +0.298LC+0.169GC + ε β_4= 0.169, P=0.037 <0.05	Rejected H_{04}	Managerial capability has a significant effect on the performance of food processing firms in Kenya
H_{05} Firm Competence has no mediating effect on the relationship between Dynamic	(i) **Y=1.076 +0.655 DC + ε** **(model 3.2)** β_5= 0.655, P=0.000 <0.05		Firm competence Partially mediates the effect of Dynamic

Hypotheses	Findings	Decision	Conclusion
Capabilities on Performance of Food Manufacturing firms in Kenya	(ii) **FC= -0.333+ 0.646 DC + ε (Model 3.3)** β_6 0.646. P=0.000 <0.05 **(iii) Y= - 0.209+ 0.523 DC+ 0.195FC +ε (Model 3.4)** β_7 0.523 P=0.000 <0.05 β_8=0...195 FC , P=0.007<0.05		Capability on the performance of food processing fins in Kenya
H_{05} Firm Size has no moderating effect on the relationship between Dynamic Capabilities on Performance of Food Manufacturing firms in Kenya	**Y= -0.078+0.673DC-0.106FS + ε . (model 3.5)** β_1= 0.673. P=0.000 <0.05 β_2=-0. 106 FS , P=0.062 > 0.05 **Y=-0.002+0.638DC-0.129FS+0.047DC* FS +ε (model 3.6)** β_3 = 0.638. P=0.024<0.05 β_4= -0.129 FS , P=0.500 > 0.05 β_5= -0.047DC*FS , P=0.898 > 0.05	Fail To reject H_{06}	Firm Size has no statistically significant moderating effect on the relationship between dynamic Capabilities and firm Performance.

Source: Survey Data, (2020)

4.7 Analysis of Qualitative Data

The study used content analysis to analyze quantitative data by bringing out meanings in the response to each section of the questionnaire contained open-ended questions to enable the respondents to provide additional information about the study variable. The qualitative data was analyzed into four themes: dynamic capabilities, firm competence, firm size, and firm performance which were extracted from the study objectives

4.7.1 Theme One: Dynamic Capabilities

Respondents were requested to state how their firms had been affected by the usage of new Innovations. The purpose of the question was to find out whether food manufacturing firms were doing horizon scanning and using the information to configure their resources to respond to opportunities and threats. Only 157 out of the 190 respondents responded to this question. The responses were grouped into thematic areas and scored for analysis.

Forty-four respondents stated that dynamic capabilities created through the usage of innovations had brought efficiencies in production while 37 stated that adapting innovations had brought higher labour efficiency. Respondents who indicated that innovations had resulted in lowering the cost of production were 36 while 17 respondents indicated that it had brought ease in the marketing of their products and their ability to meet customer needs. Eight Respondents indicated that the usage of new innovations had increased their competitiveness. Other respondents indicated that younger firms had been more flexible in adopting new technologies and their fore usage of new innovations had increased competition especially from younger firms who had no sunk costs and were more flexible.

4.7.2 Theme Two: Alliancing Capabilities

Respondents to state how their organizations had benefited from the membership industry association. The purpose of this question was to establish how manufacturing firms were using alliance capabilities to support the objectives of their firms the respondents stated that their firms had benefited from membership of industry associations. Out of the 190 respondents, only 131 gave responses to this question. The responses showed that 45 of the respondent came from manufacturing firms which

were using industry associations to lobby for favorable government regulations, Thirty respondents indicated that their firms were using KAM to jointly fight counterfeit, while 28 said that their firms were using KAM to set industry standards. Fifteen respondents said that they were using KAM to negotiate for favorable tax regimes while 13 indicated that they were using KAM to share information about industry trends.

4.7.3 Theme Three: Protection of Firm Competences

Respondents were asked to state how their firms had protected their highly skilled staff from being poached by competitors. The purpose of this question was to determine whether food manufacturing firms were taking steps to ensure that their competences, embedded in their skilled stall remained in the firm thereby retaining their competitive advantage. Out of the 190 respondents, only 105 gave a reply. The results showed that manufacturing firms had taken steps to protect competent staff from being poached. Thirty-six respondents indicated that they offer employees good working conditions. Thirty-two indicated that employees are offered competitive pay and another 21 indicated that their firms retain employees through implementing employee welfare schemes.

The results of the analysis of responses showed that manufacturing firms protect staff with firm-specific competences from being poached through providing bonus payments, good working conditions, and offering competitive pay, employee welfare schemes, Retention of highly skilled personnel ensures that competencies are not easily transferred to competitors. Unless a firm constantly renews and protects its competences other firms will imitate and make the competencies which led to competitive advantage obsolete.

4.7.4 Theme Four: Firm Size

Respondents were asked to state what factors affected the size of their firm. The purpose of this question was to establish whether any issues were challenging the performance of food manufacturing firms in terms of growth in size. Out of the 190 respondents, 167 responded to the question. The results showed that firm growth of the respondents' firms was challenged by government regulations availability of finance, cost of raw material, high cost of doing business, stiff competition, barriers to entry in the industry, and changing consumer needs and poor infrastructure.

4.7.5 Theme Five: Global Environment

Respondents were asked to state how their firms had been affected by the membership of Kenya in EAC. The purpose of this question was to determine how managers in food processing firms in Kenya perceived global phenomena that no individual company had control of and whose effect the firms could not survive without applying dynamic capabilities. Majority of the respondents (75) said that membership in EAC had lowered the cost of their exports. Another 51 responded that EAC offered a bigger source of raw materials for food manufacturing firm Forty-eight of the respondents reported that membership of Kenya in EAC had invited competition from firms located in those other countries. These results showed that food manufacturing firms are affected differently by preferential trade agreements which open market to competition from foreign firms.

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CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of findings, conclusions drawn from the results, recommendations, contribution of the study to the existing body of knowledge, limitations, and finally the areas for further research and of the study. The main objective of the study was to determine the effect of dynamic capabilities on the performance of food manufacturing firms in Kenya.

5.2 Summary of Findings

Previous studies have observed that food manufacturing firms in Kenya have experienced constraints in their performance resulting in either stagnation or decline altogether. Indeed, the poor performance of these firms has attracted attention due to widespread discontent with frequent food shortages and growing public pressure to satisfy the demand for food. As a result, strategies are being sought to make manufacturing firms better performing and more competitive.

It was on this background that the study sought to analyze the effect of dynamic capabilities on the performance of food manufacturing firms in Kenya. The specific objectives of the study were: to assess the effect of adaptive capabilities on the performance of food processing firms in Kenya, to determine the effect of marketing capabilities on the performance of food manufacturing firms in Kenya, to establish the extent to which alliancing capabilities affect performance of food manufacturing firms in Kenya, to examine how managerial capabilities affect the performance of food manufacturing firms in Kenya. to determine whether firm competence mediates the

effect of dynamic capabilities on the performance of food manufacturing firms in Kenya and to investigate the moderating effect of firm size on the effect of dynamic capabilities on the performance of food manufacturing firms in Kenya.

The study was founded on positivism philosophy adopting an explanatory and descriptive research design. The population of the study comprised of 70 food manufacturing firms in Nairobi County, Kenya. A stratified random sampling method was used to select a sample of 295 respondents. A semi-structured self-administered questionnaire was used to collect primary data. Before data collection, a pilot study was conducted to ensure the reliability of the questionnaire.

The reported findings were obtained from 190 respondents who were senior managers in the respondent firms responsible for finance, human resources, operations marketing, and corporate relations. The questionnaires required the respondents to respond to statements on each of the variables on a Likert scale of 1-5. Measures of central tendency including the mean and standard deviation were used to summarize the variable characteristics. Data were analyzed using descriptive and inferential statistics. Multiple regression analysis was used to test the study hypotheses. The decision on the hypothesis was done using P-values of the Beta Coefficient at a 95% confidence level.

The Respondents were managers responsible for corporate relations, finance, human resources, and marketing. More than 80% of the respondents had worked in the same firm for more than four years. The core businesses of the respondent's firms were beverage manufacturing, flour milling, sugar confectionery, meat and fish processing, dairy processing edible oil refining, bread and pastry manufacturing, spice and

condiments processing, and honey processing. The respondents were drawn from both medium and large-scale firms 97% of whom had operated for more than six years.

The first objective of the study was to assess the effect of adaptive capabilities on a performance food manufacturing firm in Kenya. The study hypothesized that adaptive capabilities have no significant effect on the performance of food manufacturing firms in Kenya. The results of multiple regression showed that adaptive capabilities had β_1=0.205, p-value=0.008. Since $\beta_1 \neq 0$ and p were less than the significant level of 0.05, the study rejected H_{01} and found that adaptive capabilities have a significant and positive effect on the performance of food manufacturing firms in Kenya.

The second objective of the study was to determine the effect of marketing capabilities on the performance of food manufacturing firms in Kenya. The study hypothesized that marketing capabilities have no significant effect on the performance of food manufacturing firms in Kenya. The study identified marketing capability in terms of market sensing, customer relationship management, and brand management as key components of marketing capability. The results of multiple regression showed that marketing capabilities had β_2=0.164, p-value = 0.037. Since $\beta_2 \neq 0$ and p was less than 0.05. H_{02} was therefore rejected and the study found that marketing capabilities have a positive and significant effect on the performance of food manufacturing firms in Kenya.

The third objective of the study was to establish the effect of alliancing capabilities on the performance of food manufacturing firms in Kenya. The study hypothesized that alliancing capabilities do not significantly influence the performance of manufacturing firms in Kenya. The study identified new partner identification, inter-

organizational coordination, alliance experience, and termination of relationships as key components of alliance capabilities of food manufacturing firms in Kenya. The results of multiple regression showed that alliancing capabilities had β_3=0.298 and p-value < 0.001. Since $\beta_3 \neq 0$ and p were less than 0.05, H_{03} was therefore rejected and the study found that alliancing capabilities positively and significantly affected the performance of food manufacturing firms in Kenya.

The fourth objective was to establish whether managerial capabilities had a significant effect on the performance of food manufacturing firms in Kenya. The study hypothesized that managerial Capabilities do not have a significant effect on the performance of food manufacturing firms in Kenya. The study identified decision-making, management style, and people development, succession planning managerial human capital, and managerial social capital as components of managerial capabilities common across manufacturing firms. The results of multiple regression show that managerial capabilities had β_4= 0.169, p-value =0.037. Since $\beta_4 \neq 0$ and p-value were less than 0.05. β=0 (H_{04}) was rejected and the study, therefore, found that managerial capabilities significantly and positively affect the performance of manufacturing firms in Kenya.

The fifth objective was to determine whether firm competence mediated the relationship between dynamic capabilities and performance of food manufacturing firms in Kenya the study, therefore, hypothesized that firm competence does not mediate the relationship between dynamic capabilities and performance of food manufacturing firms. The findings showed that manufacturing firms were committed

to the building of firm competences. The study found foundational, technological, and functional competencies as being common across food manufacturing firms.

The study found that firm competence contributes 0.132% of the effect of dynamic capabilities on the performance of food manufacturing firms in Kenya. The results showed a pattern of correlations consistent with the mediational hypothesis that the effect of dynamic capability on firm performance is mediated by firm competence. The study, therefore, rejected the Null hypothesis and found that firm competences partially mediate the relationship between dynamic capabilities and performance of food manufacturing firms in Kenya.

The sixth objective was to investigate the moderating effect of firm size on the relationship between dynamic capabilities and firm performance. The study, therefore, hypothesized that firm size does not have a moderating effect on the relationship between dynamic capabilities and performance of manufacturing firms in Kenya. The variable was operationalized in terms of the number of employees, the value of inputs used by the firm, market share, and annual sales turnover.

The results of the analysis showed that the effect of dynamic capability on firm performance remained direct and significant regardless of the firm size. Furthermore, the R^2 remained the same after the introduction of the interactive term. The results also show that when firm size was treated as moderating variable (DC*FS), it had a β -0.047, p-value = 0.898. Based on the results of the test, it was concluded that firm size has no moderating effect on the relationship between dynamic capabilities and performance of food processing firms in Kenya.

5.3 Conclusion

Based on the summary findings, several conclusions can be made. First, the findings of this study show that dynamic capabilities have a significant and positive effect on performance. The study, therefore, concludes that enhancing adaptive capabilities, marketing capabilities, alliancing capabilities and managerial capabilities of food manufacturing firms can increase their performance.

Second, firm competencies were found to partially mediate the effect of dynamic capabilities on performance. The study, therefore, concluded that building Firm competences and especially organizational, foundational, functional, and technological competencies that are valuable, rare, and imitable can help firms to achieve competitive advantage and high levels of performance

Third, the findings showed that firm size does not moderate the effect of dynamic capabilities on performance. The study, therefore, concluded that the effect of dynamic capabilities on the performance of food manufacturing firms is positive and significant irrespective of the size of the firm. Therefore, both large and small enterprises can increase their performance by building and applying dynamic capabilities.

5.4 Policy Implications and Recommendations

From the findings of this study, several policy implications can be drawn in line with the study objectives. First, adaptive capabilities were found to have a significant effect on the performance of the respondents' firms. Consequently, management of manufacturing firms should build adaptive capabilities for, horizon scanning and change management based on information gathered during horizon scanning to

configure themselves to seize opportunities and respond to threats as they emerge. They should also build resilience to survive market disruptions through creating an environment for employees to offer solutions besides traditional strategies.

Second, market capabilities were found to have a positive and significant effect on performance. The study however revealed that lack of adequate budget for market research limited firms from developing marketing capabilities especially and product development as informed by market research in the majority of the firms surveyed. The study, therefore, recommends that the management of food manufacturing firms should review the budget allocations set aside for development for marketing capabilities. The study also recommends that product development teams should always be informed by market trends including changing consumer tastes to ensure high acceptability of their brands in the market.

Third, the study found that alliancing capability has a positive and significant effect on performance. The study findings however showed that the majority of the firms lacked written procedures for managing alliances. The study, therefore, recommends that relevant departments in the firms should write procedures for alliancing and how to use alliances to work with peers to enhance industry competitiveness. Furthermore, manufacturing firms should build alliances with suppliers and main customers and where possible enter partnerships to secure the stability of their value chains.

Fourth, the study found that managerial capability has a significant and positive effect on performance. The study notes that to gain superiority, a firm requires that top management possesses a broad set of complementary skills however, it is unlikely that a single person no matter how talented, would possess all the managerial skills

required for the successful operation of a large organization. The study, therefore, recommends that manufacturing firms should invest in strengthening of managerial capabilities of the entire top management teams before looking for top managers from outside the firm. Furthermore, firms should invest in building TMT's human and social capital. Moreover, the management of manufacturing firms should encourage creativity and innovativeness among their employees.

Fifth, the study found that firm competence has a significant effect on the performance of food manufacturing firms. However, most of the firms scored low on some aspects of foundational competencies especially on the existence of anti-corruption policies. Noting the importance of having sound values for all employees at the workplace irrespective of their function in the organization, the study recommends that manufacturing firms review their anti-discrimination and anti-corruption policies to enhance their foundational competences. Furthermore, most of the respondents indicated that both their superior brands and specialized skills could easily be replicated or poached by competitors. In this regard, the study recommends that manufacturing firms develop measures to protect their competitiveness by developing functional competences that cannot be easily replicated or poached by their peers.

Six, the study found that firm size does not moderate the effect of dynamic capabilities on performance. The study, therefore, recommends that policy interventions aimed at the achievement of UN Sustainable Goal 2 and increasing food security in Kenya should factor building of dynamic capabilities of food manufacturing firms irrespective of their size. Furthermore, the government should

take affirmative action to help the development of dynamic capabilities among SMEs which form the majority of food processing firms in Kenya. A summary of recommendations is shown in Table 5.1 below.

Table 5. 1 Summary of Recommendations

OBJECTIVE	RECOMMENDATIONS
1. To assess the effect of adaptive capabilities on the performance of food processing firms in Nairobi County, Kenya.	• build adaptive capabilities to enable increase a firm's capacity for horizon scanning, change management and resilience • Create an environment for employees to offer solutions besides traditional strategies to enhance responsiveness to market disruptions.
2. To determine the effect of marketing capabilities on the performance of food processing firms in Nairobi County, Kenya.	• Ensure adequate budget allocations for the development of marketing capabilities. • Ensure that interventions by product development teams are always informed by market trends and changing consumer tastes to ensure sustainable acceptability firm's brands in the market.
3. To establish the effect of alliancing capabilities on the performance of food processing firms in Nairobi County, Kenya;	• Develop procedures for new partner identification and alliance management • Build alliances with suppliers and main customers to secure the stability of value chains. • Collaborate with partners to solve industry problems
4. To examine the effect of managerial capabilities on the performance of food processing firms in Nairobi County, Kenya.	• Invest in the strengthening of managerial capabilities of the entire top management teams before looking for top managers from outside the firm. • Invest in building TMT's human and social capital. • Management should encourage creativity and innovativeness among their employees.
5. To examine the mediating effect of Firm Competence on the effect of dynamic Capabilities on the performance of food processing firms in Nairobi County, Kenya.	• Manufacturing firms should review their anti-discrimination and anti-corruption policies to enhance foundational competences. • Manufacturing firms should develop measures to protect their competitiveness by developing functional competences that cannot be easily replicated or poached by their peers.

OBJECTIVE	RECOMMENDATIONS
6. To examine the moderating effect of firm size on the effect of dynamic Capabilities on the performance of food processing firms in Nairobi County, Kenya.	• Irrespective of their size Firms should develop deliberate systems and structures necessary for dynamic capabilities to develop within the organization to enhance performance • custodians of policy on food security should link the performance of food manufacturing firms with national goals and in this regard, include acquisition of dynamic capabilities by food manufacturing firms

Source: Research Data (2020)

5.5 Contribution of the Study to Knowledge in Strategic Management

The study contributes to the general body of knowledge in several ways. First, the study contributes to the ongoing discourse on why some firms perform better than others by empirically showing that adaptive capability, marketing capability, alliancing capability, and managerial capability interact with each other to impact performance positively and directly. No previous studies have isolated these four capabilities and investigated how they impact the performance of manufacturing firms in Kenya.

Second, the study contributes to knowledge by showing how various dynamic capabilities affect performance after interacting with each other and firm competence. The study has shown that firm competence partially mediates the effect of dynamic capabilities on performance. The study, therefore, fills the gap left by previous local studies linking dynamic capabilities and performance of manufacturing firms in Kenya as the interaction between dynamic capabilities and firm competence has not been investigated.

Third, this study expands the scope of measurement of firm performance food manufacturing firms in Kenya by considering social excellence, environmental stewardship, and corporate governance as indicators in addition to financial performance normally used in most previous studies. Regulatory reporting requirements for firms do not have standards and requirements of reporting environmental stewardship, social excellence, and corporate governance despite this aspect of performance being crucial for firm survival and business success.

Fourth the findings of this study contribute to the discourse on the effect of size on the performance firms by showing that firm size does not have a significant effect on the relationship between dynamic capabilities on performance. The findings of this study imply that large firms can overcome inertia and rigidities caused by sunk costs by applying dynamic capabilities.

5.6 Limitations of the Study

The main limitation of carrying out the study was lack of cooperation by respondents especially because some of them were reluctant to provide financial and other information which they may consider sensitive and of strategic importance. The researcher countered this limitation by availing letters of introduction from Kenyatta University and NACOSTI to undertake the research. The researcher also assured that the respondents that the information obtained from them would be treated with confidence and that it would only be used for academic purposes. Respondents were also assured that they would be given a copy of the findings of the study if they so wished.

Another related limitation was the inability to meet some of the respondents at their workplace. To address this problem, the respondents were called through telephone to request them to suggest a timing that would be appropriate for them to set aside time for the study. Another limitation was the scarcity of previous Kenya specific work on the performance of food processing firms. To overcome this problem, the researcher examined work done on food processing firms in Kenya by international organizations such as the World Bank.

5.7 Areas for Further Research

This study recommends several areas of further research. First, the study shows that adaptive capability, marketing capability, alliancing capability, and managerial capability explained 44.4% of the variation in performance food manufacturing firms in Kenya. The study recommends that further studies using other variables not used in this study to establish other factors that account for the remaining 65.6% of the variation in performance of the food manufacturing firms in Kenya.

Second, the study suggests that this study be replicated using other indicators of dynamic capabilities and performance that were not used in the current study. Third, the study recommends further research on the effect of dynamic capabilities on the performance of organizations in the service sector in Kenya. In this regard, the study suggests further investigation of the effect of dynamic capabilities on the performance of firms in the tourist sector, and public service departments. Fourth, this study also recommends that this research be replicated in other counties in Kenya.

Fifth, the demographic characteristics showed that there was gender disparity among employees working in food manufacturing firms. This study suggests that the research be replicated using gender as a moderating variable or mediating variable.

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APPENDICES

APPENDIX I

Histograms and QQ Plots for Dependent Variable

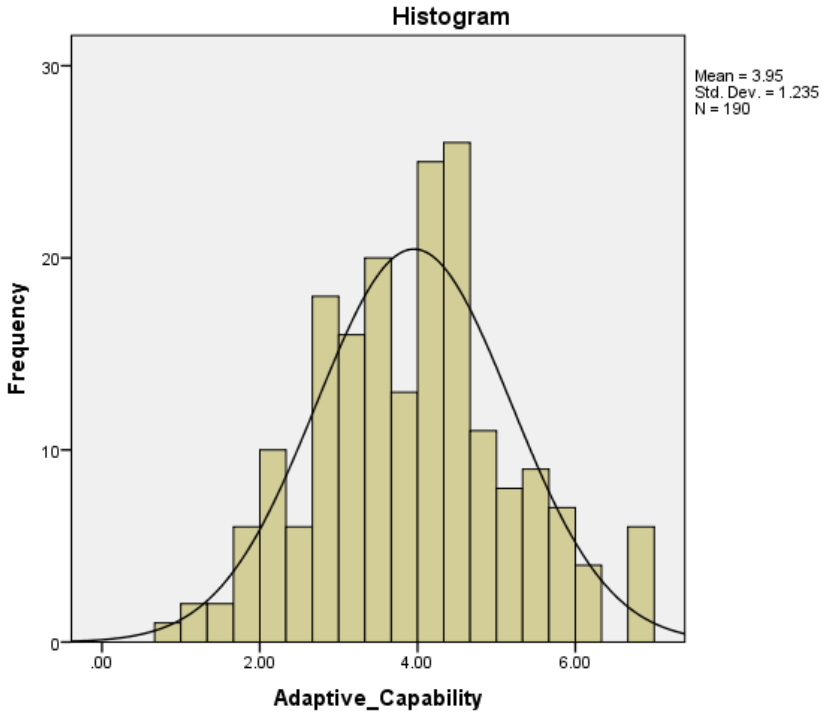


Figure 4. 2 Histogram for Adaptive Capability

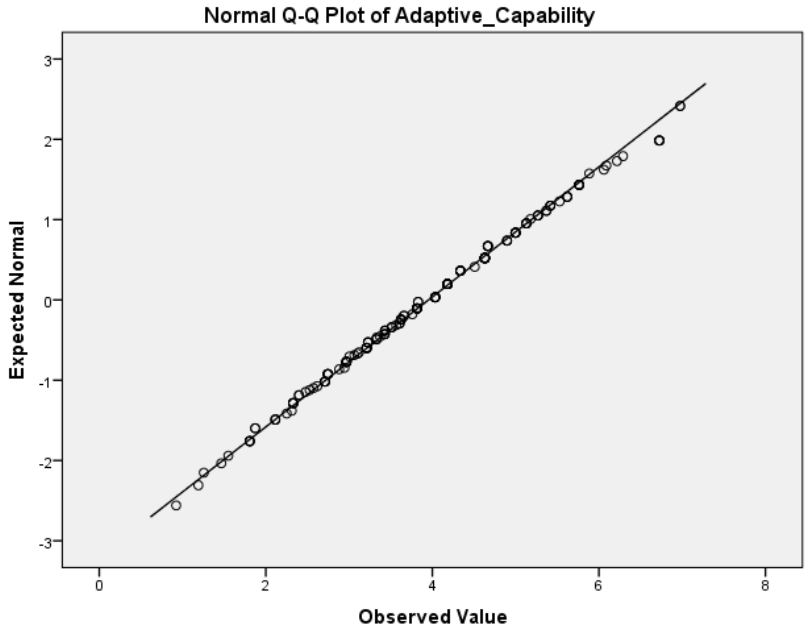


Figure 4. 3 QQ Plot for Adaptive Capability

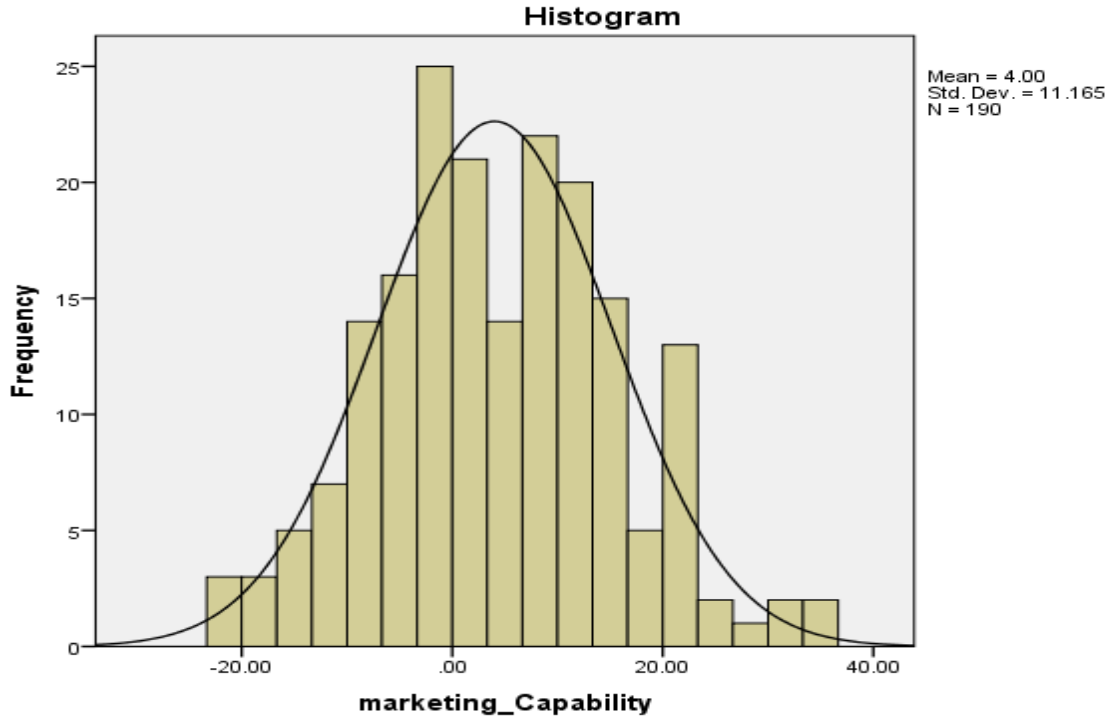


Figure 4. 4 Histogram for Marketing Capability

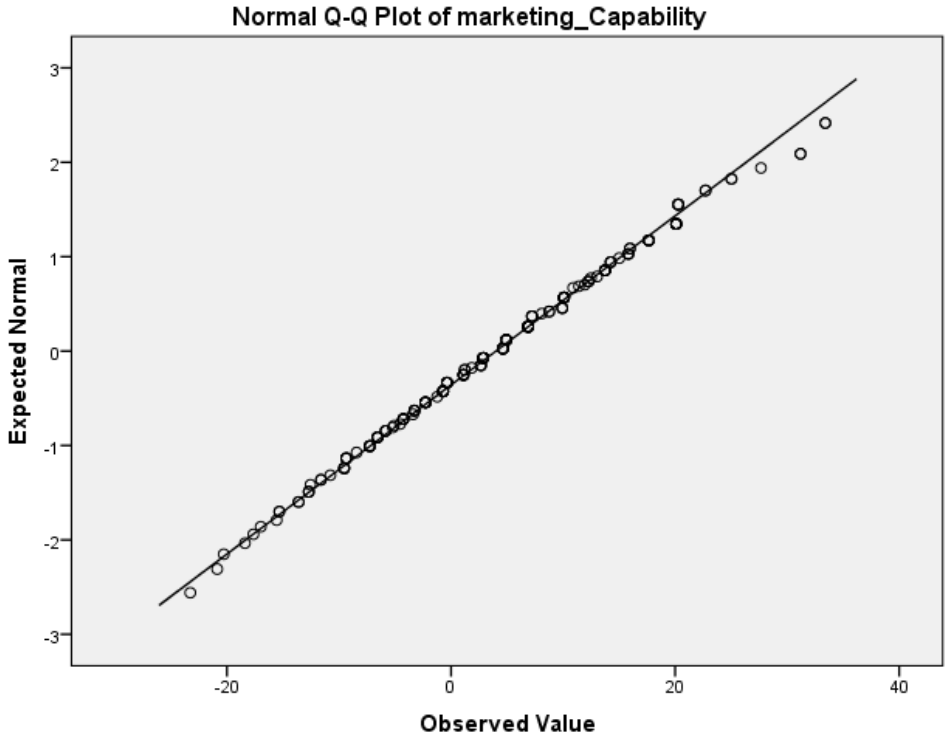


Figure 4. 5 QQ Plot for Marketing Capability

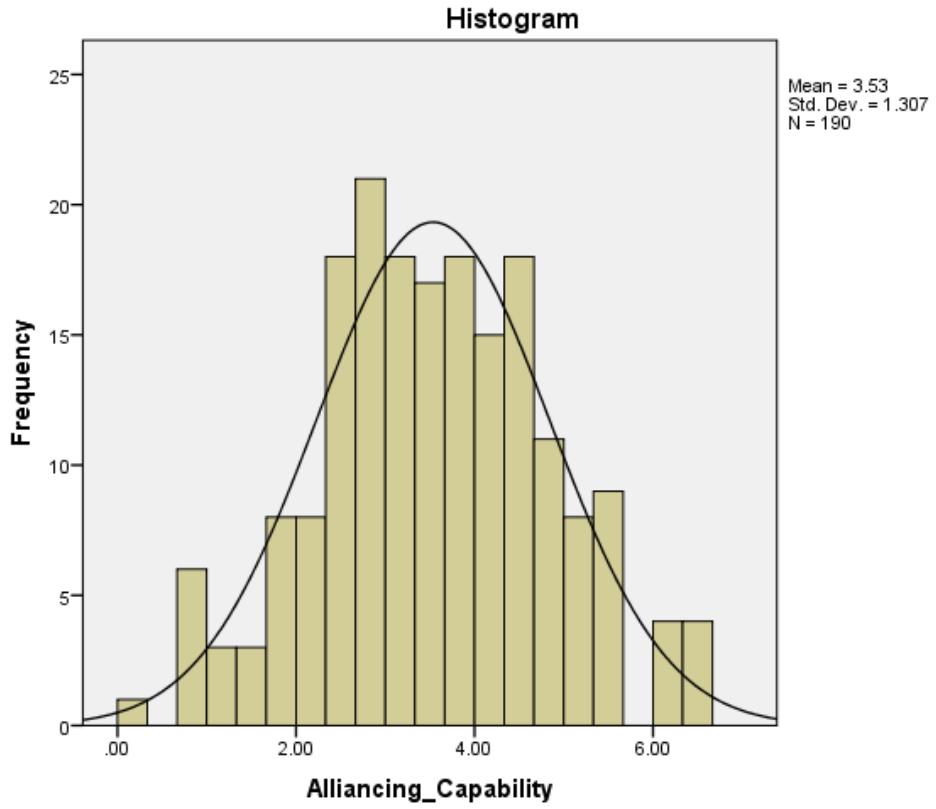


Figure 4. 6 Histogram for Alliancing Capability

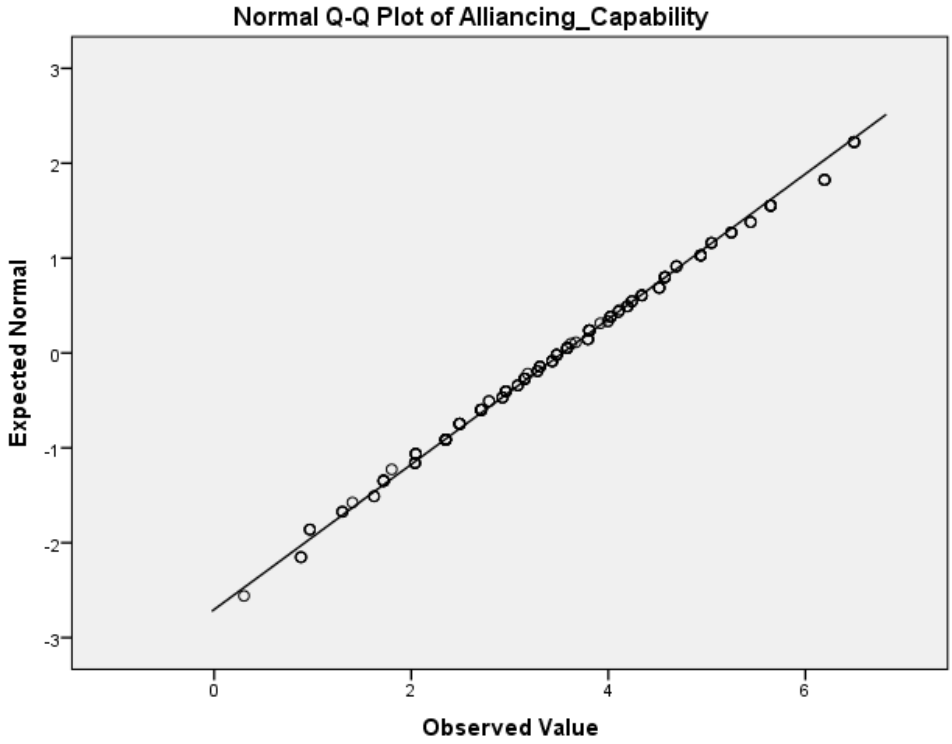


Figure 4. 7 Normal QQ plot for Alliancing Capability

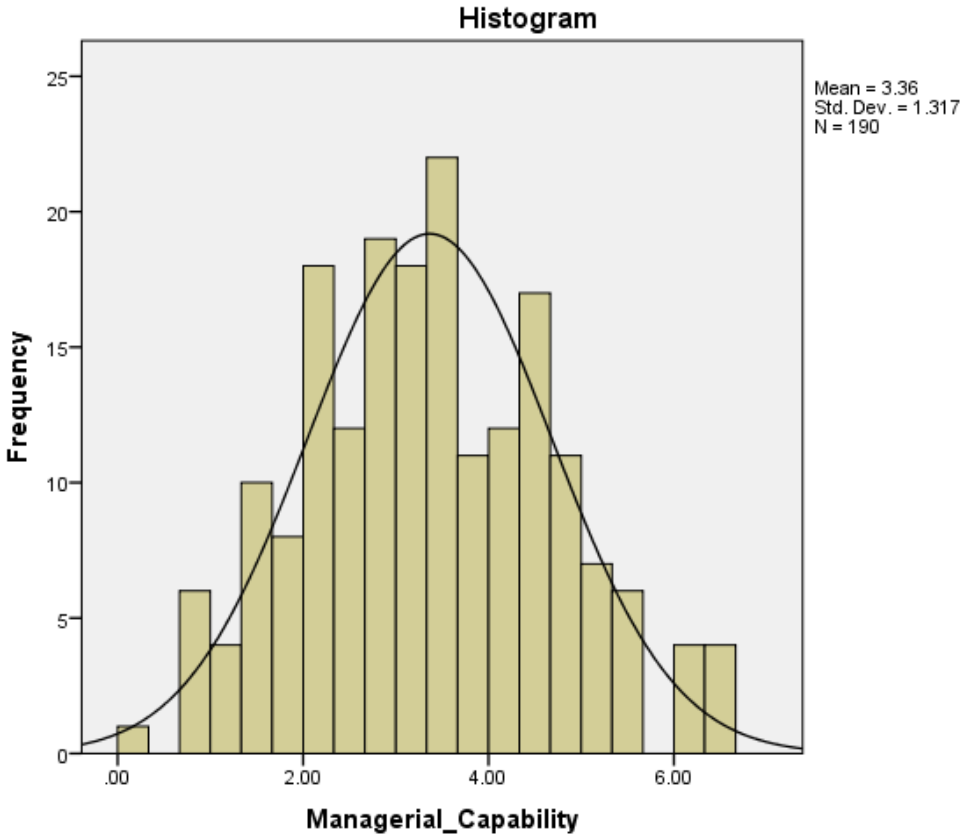


Figure 4. 8 Histogram for Managerial Capability

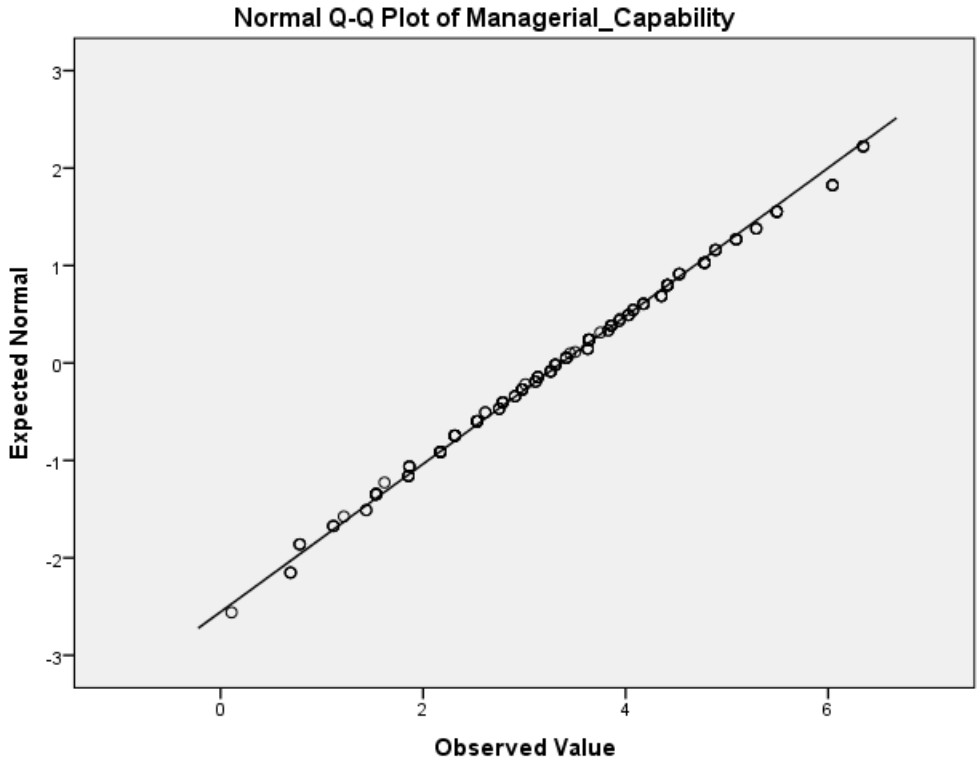


Figure 4. 9 Normal QQ Plot for Managerial Capability

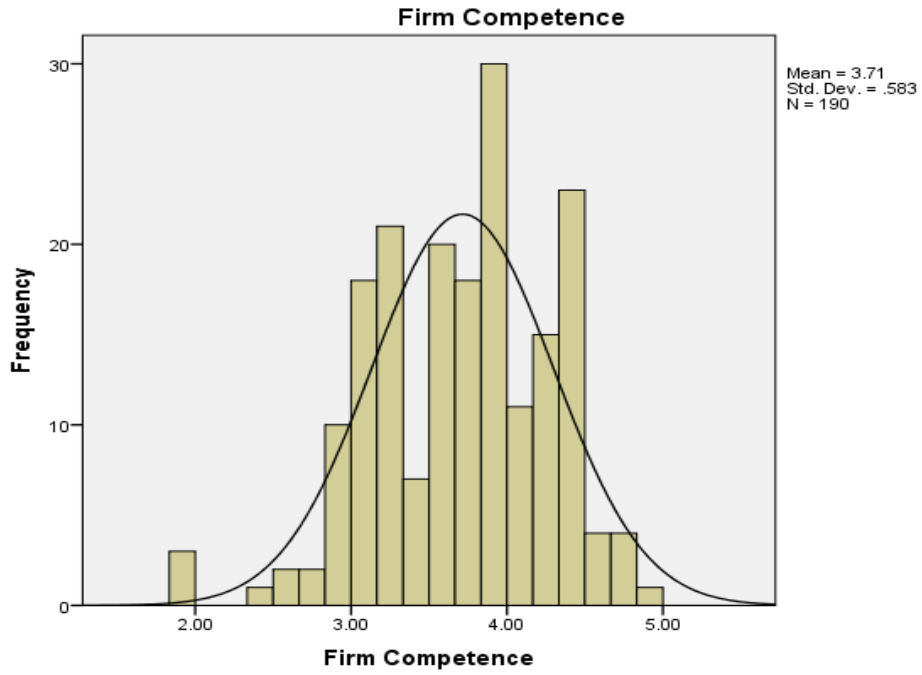


Figure 4. 10 Histogram for Firm Competence

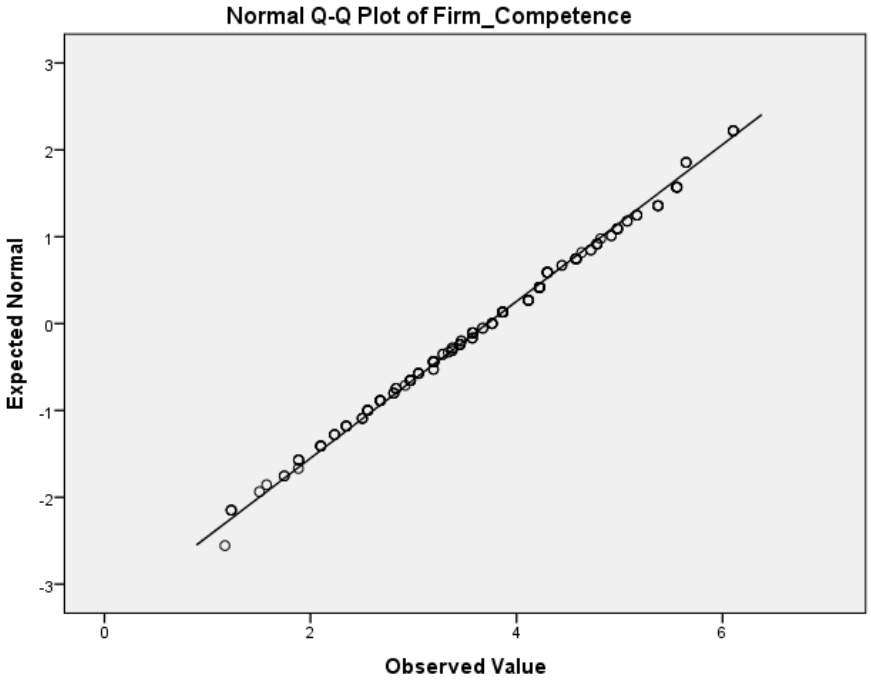


Figure 4. 11 QQ Plot for Firm Competence

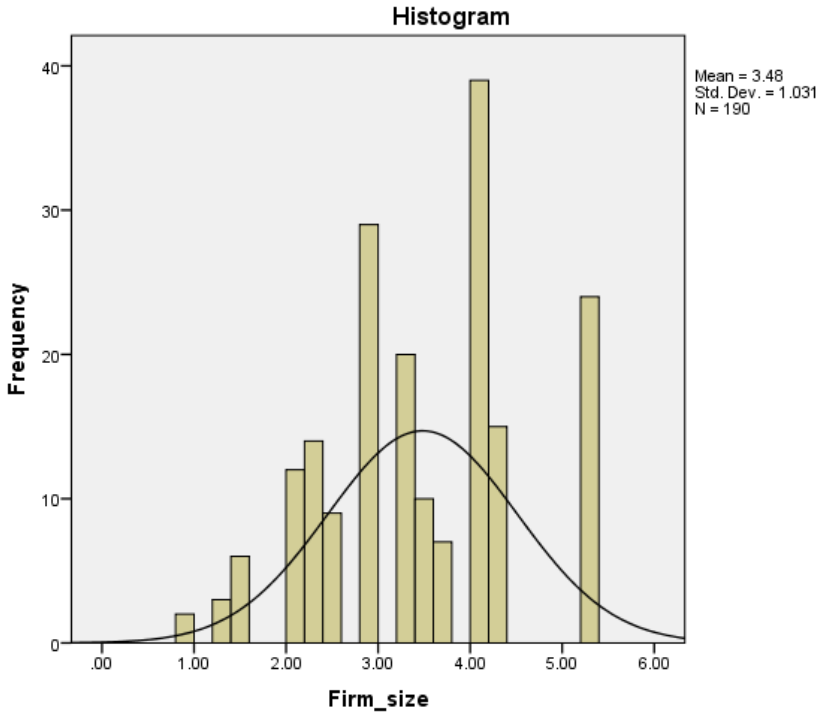


Figure 4. 12Histogram for Firm Size

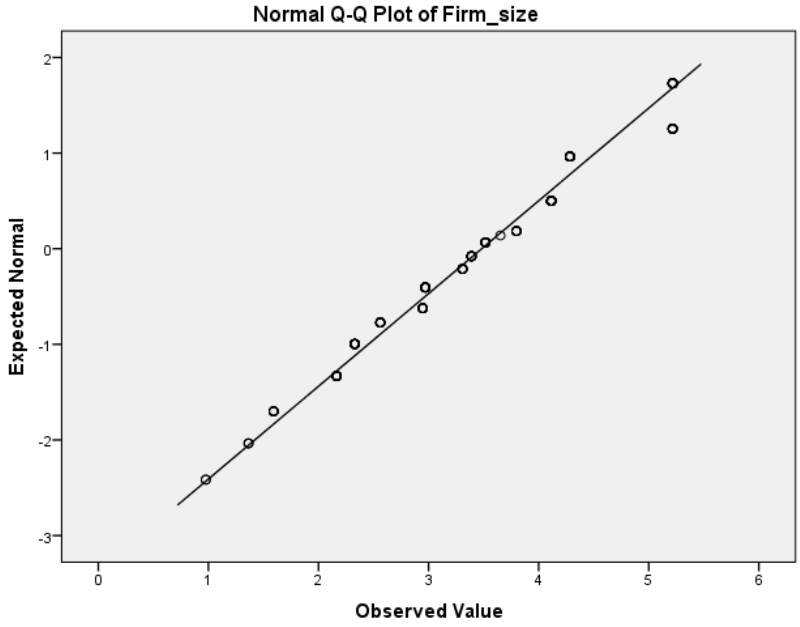


Figure 4. 13Normal QQ Plot for Firm Size

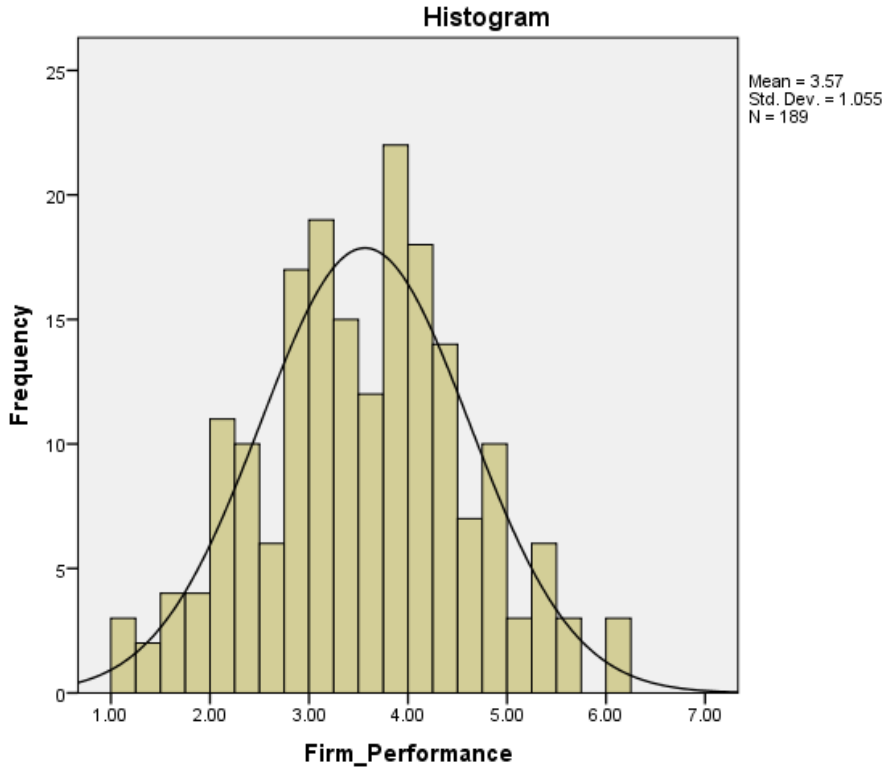


Figure 4. 14 Histogram for Firm Performance

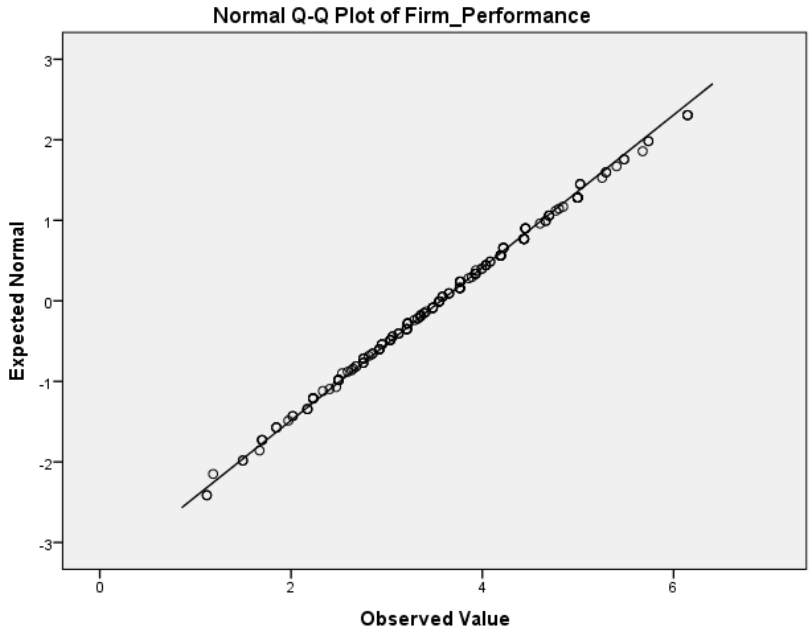


Figure 4. 15 Normal Q Q. Plot for Firm Performance

APPENDIX II

Linearity Test Scatterplots

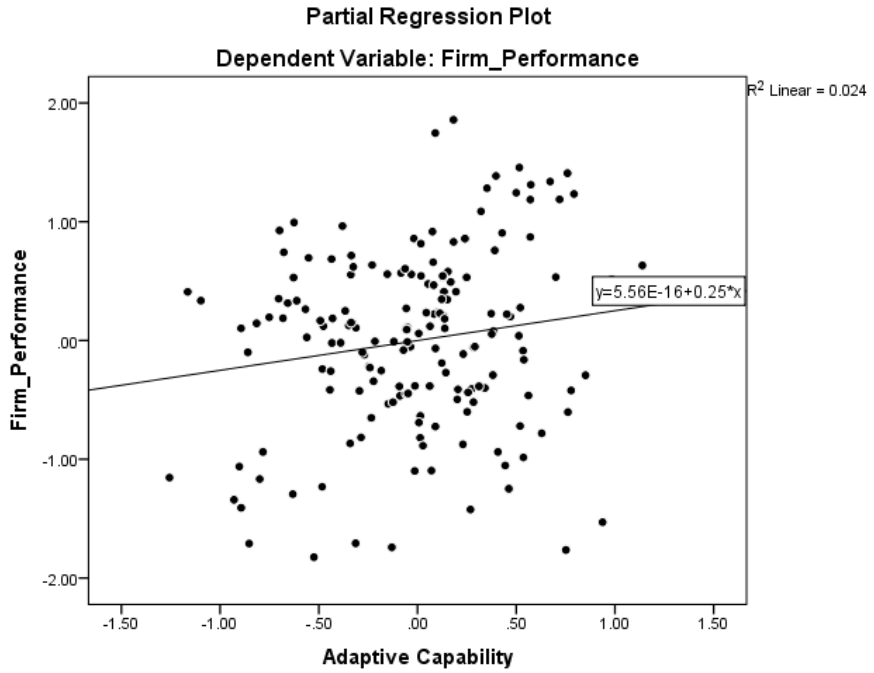


Figure 4. 16 Partial regression scatterplot for adaptive capability

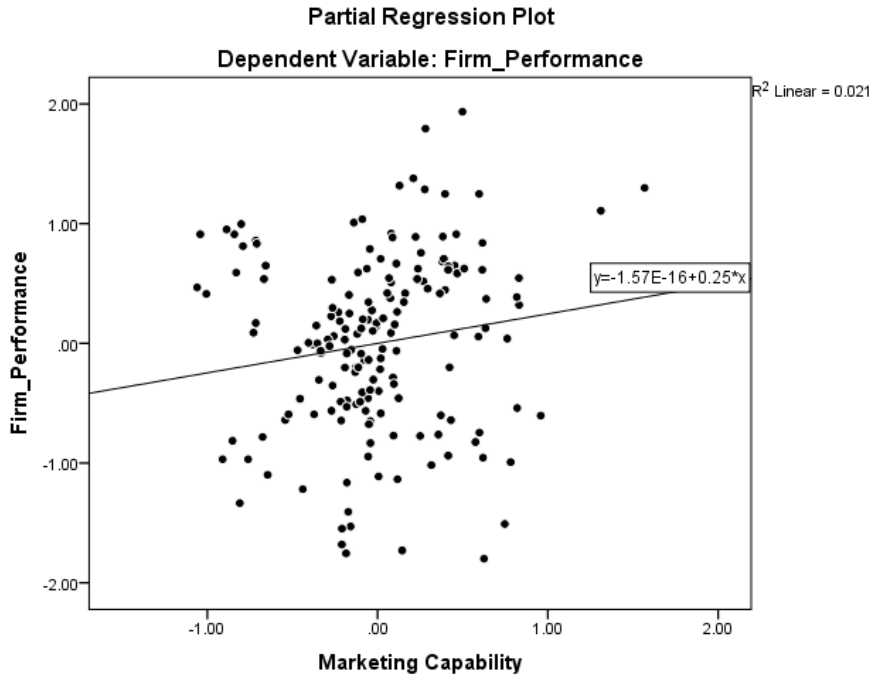


Figure 4. 17 Partial regression scatter plot for Marketing Capability

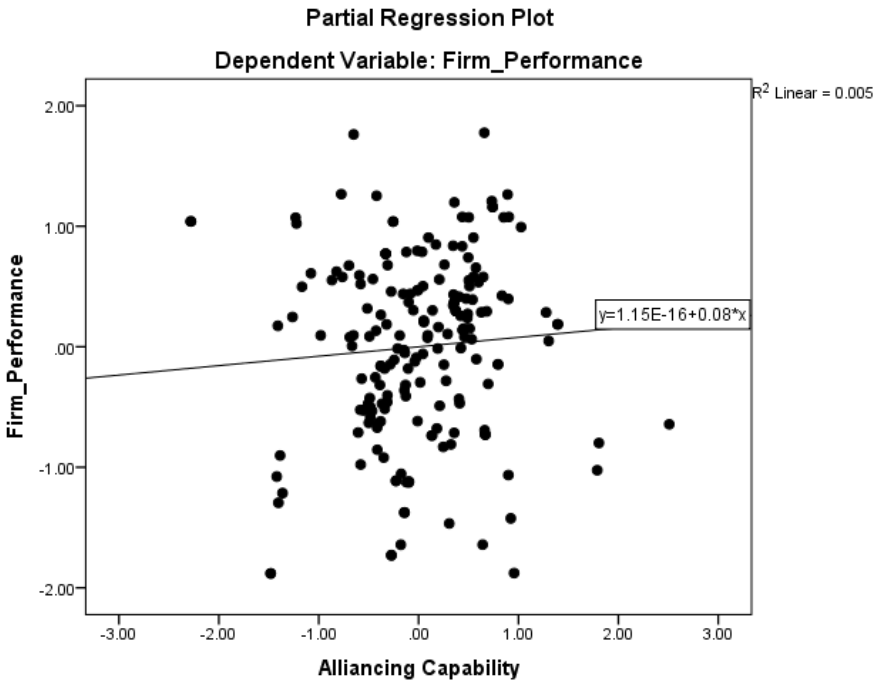


Figure 4. 18 Partial Regression Scatterplot for Alliancing Capability

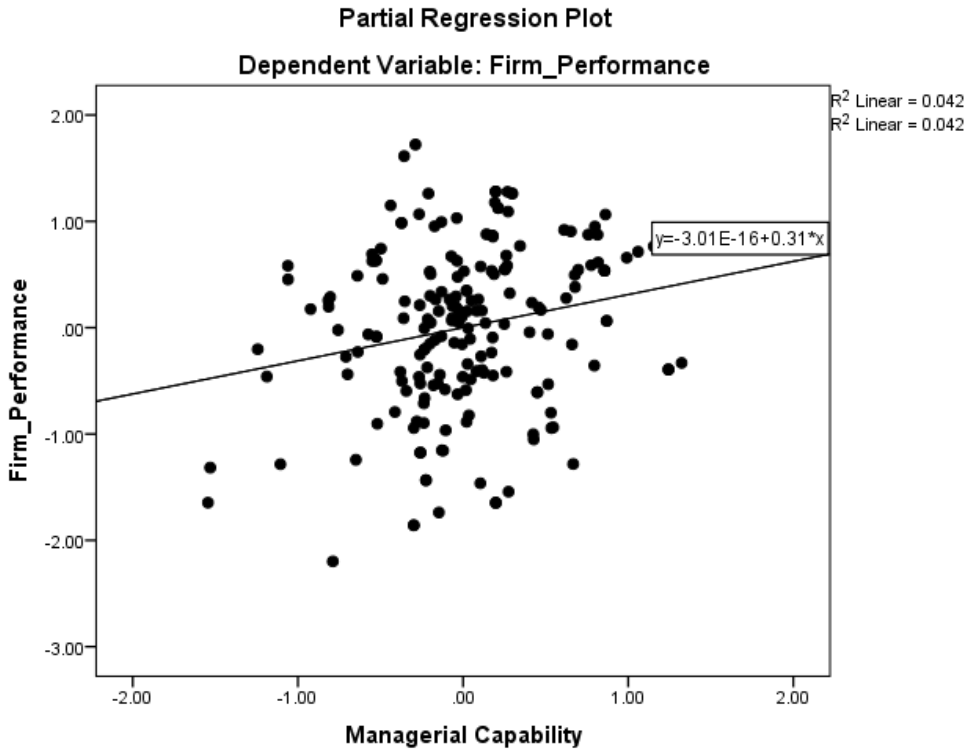
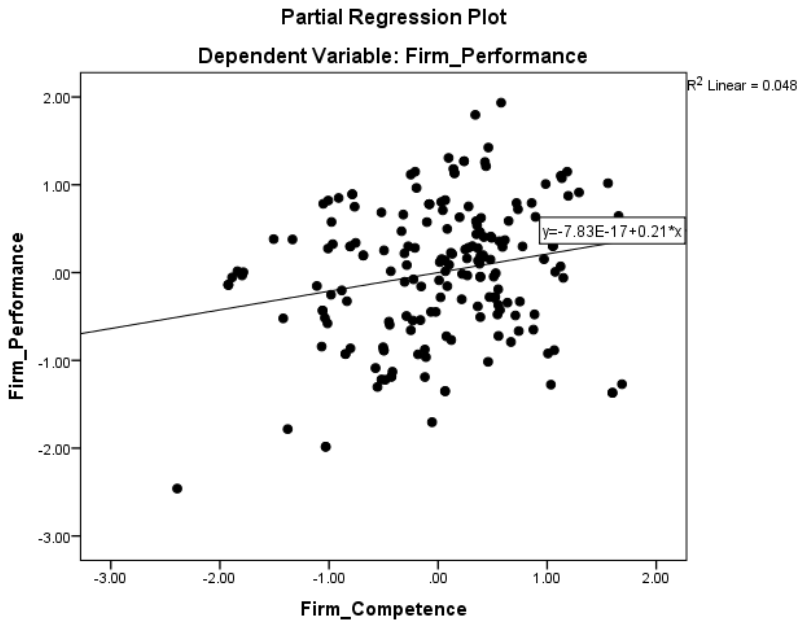


Figure 4. 19 Partial Regression Scatterplot for Managerial Capability



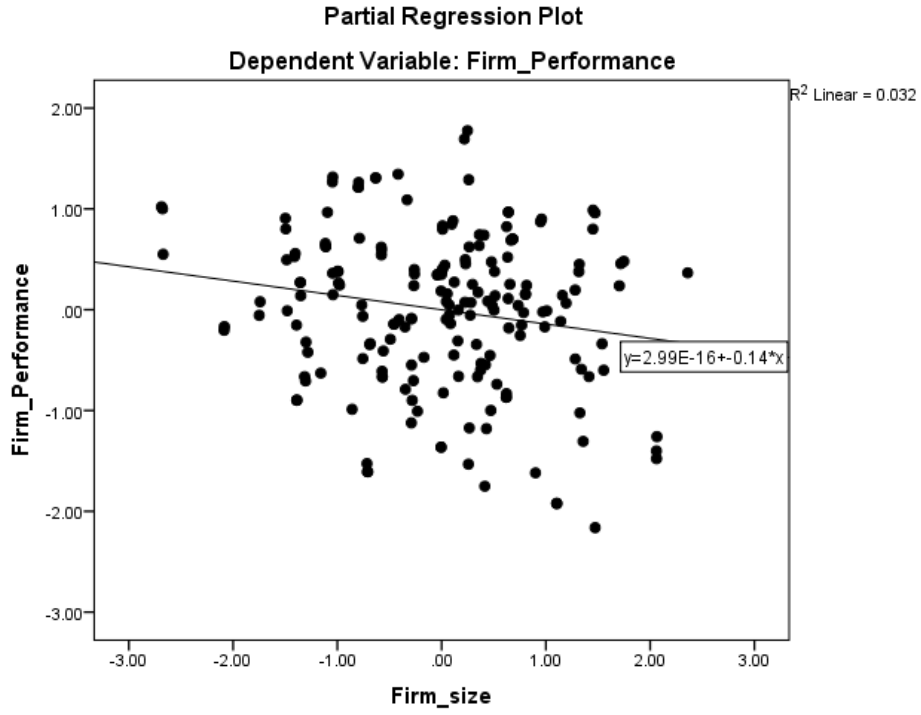


Figure 4. 20 Partial regression Scatterplot for firm Size

APPENDIX III

Questionnaire

This questionnaire is designed to collect data for academic purposes. The study seeks to establish "*the effect of dynamic capabilities on Performance of Manufacturing firms in Kenya"* please respond to every question. All information shall be treated in strict confidence. Do not put any name or any form of identification.
Please answer all questions by filling in the blank space or ticking the option that applies.

SECTION 1

DEMOGRAPHIC INFORMATION.

This section of the questionnaire seeks to obtain some background information about the respondents. Please respond by ticking the correct statement.

1. Your gender:

   Male [ ] Female [ ]

2. Years of service in your current organization.

   1-3 years [ ] 4-5years [ ] More than 5 years [ ]

3. Please state core business of the organization

   a) flour milling [ ]

   b) edible oil refining [ ]

   c) sugar and confectionery [ ]

   d) other [ ]

   if other, specify…….

4. Please state age of the firm:

   below 5[ ] 6-10 [ ] over 10 [ ]

5. Please state the number of full-time employees in the firm:

   a) Micro enterprise……. Below 10 [ ]

   b) Small Enterprise……... 10- 49 [ ]

   c) Medium scale enterprise……...50- 249 [ ]

   d) Large scale Enterprise ……over 250 [ ]

6. Please state level of annual sales turnover

   a) Micro Enterprise…Below Ksh 5M [ ]

   b) Small Scale enterprise Ksh 5M- 50M. [ ]

   c) Medium Scale Enterprise Ksh50M -800M [ ]

   d) Large scale Enterprise Over 800M [ ]

7. Please state value of inputs used by the firm

   i. Below Ksh 5M [ ] (b) Ksh 5M- 50M. [ ] (c) Ksh50M -800M [ ]

   (d) over Shs 800M [ ]

8. Please indicate your market share

   (a) Below 20% [ ]

   (b) 20%- 40% . [ ]

   (c) 41%- 60% [ ]

   (d) over 60% [ ]

SECTION 2

DYNAMIC CAPABILITIES

This section of the Questionnaire presents statements touching on dynamic capabilities that your firm has built over time. The section has statements on several types of capabilities. For each of the capabilities several statements are provided.

9. Please indicate the extent to which your firm has shown commitment to developing dynamic capabilities by responding to the following statements in a scale of 1-5 where: **1= not at all, 2= slight extend , 3= moderate extend , 4=high extend, 5=very high extend**

In this organization management has ensured that:	**1**	**2**	**3**	**4**	**5**
We Commit substantial resources to scan the environment to identify new opportunities.					
We Commit substantial resources to scan the environment to identify new threats					
We Commit substantial resources to scan the environment to identify recent technologies					
We continually adjust our strategies based on information we obtain from the market.					
We continually adjust our product mix based on information we obtain from the market					
We continually adjust our systems based on information we obtain from the market					
We always encourage our people to challenge outmoded traditions					
We always have a risk management strategy					
We are always able to respond to market disruption faster than our competitors					

In this organization management has ensured that:	1	2	3	4	5
We have an adequate budget for market research					
We carry out new product development as informed by market research					
We review prices to respond to market trends					
We continually assess customer satisfaction					
We always act on Customer Complaints are promptly					
We have a strategy for retaining our loyal customers					
We have a sufficient budget for brand management					
We have documented procedures to create brand awareness.					
We teach our employees brand management techniques.					
We treat strong customer relationships as a valuable asset					
We are continuously looking for new partnerships					
We partner with suppliers to stabilise raw material supply					
We always have a manager responsible for managing intra industry partnerships					
We have a written procedure for finding new partners					
We partner with peers to lobby for favourable regulatory framework					
We share industry information with peers					
We always review the size of our alliance portfolio.					
We encourage our senior managers participate in leadership of industry associations					
We always involve our employees in decision making					
We always encourage line managers to delegate decision making power to employees					
We have team building events to create cohesion between managers and staff					
We encourage employees to innovate new ways of doing their work					
We only engage new managers who have functional experience					
We always pay for managers' membership in social clubs					
We always sponsor professional training for our employees					
We have a documented procedure for developing future leaders.					
We encourage line managers to identify arrears likely to have skill gaps in future					

10. In your opinion, how has usage of new innovative technologies affected your organization?

_____

_____

11. In your opinion, how has your firm benefited from membership in industry associations?

_____

_____

SECTION 3
FIRM COMPETENCE

This section of the questionnaire seeks your opinion on the extent to which your firm has built competences to carry out its operations to sustain superior performance.

12. Please indicate your opinion on the state of each type of competence expressed in the statements in a scale of 1-5 where:**1= Not Applicable, 2 = Definitely False, 3 = False, 4= Mostly True , 5= Definitely True.**

In our organization;	**1**	**2**	**3**	**4**	**5**
We have a well-developed a code of conduct.					
We have a clear set of organizational values					
We have a clearly developed non-discrimination policy					
We have a well-developed anti-corruption policy					
Our key employees cannot easily transfer skills to other firms					
We have specialized equipment for manufacture of products					
We ensure that all products undergo quality control					
We are confident that competitors cannot easily imitate our key brands					
We have a steady flow of new product ideas					
Our functional teams are led by experienced managers					
Shared service teams have specialized skills in what they do					
Our employees have unique skills that are unmatched in the market					
We have structured on the job training for employees					
We have a procedure manual detailing all routines					

13 In your opinion, what has influenced availability of competent staff in the market?

SECTION 4

FIRM SIZE

This section of the questionnaire is about dimensions of the size of your firm.

14. For each of the following statements indicate your opinion of the size of your firm on a scale of 1-5 where: **1= neither agree nor Disagree, 2= strongly disagree, 3 = disagree 4= agree, 5 = strongly disagree.**

In our organization;	**1**	**2**	**3**	**4**	**5**
Management considers the workforce establishment level as an important asset					
The annual value of raw materials used by the firm matches industry practice					
Our market share is a major source of our competitiveness					
Our annual sales turnover gives us the confidence to remain in the industry					
We are optimistic to remain viable industry players given the size of our firm					

15 In your opinion, what has affected size of food processing firms during the last three years?

_____

_____

_____

SECTION 5

FIRM PERFORMANCE

This section of the questionnaire seeks to obtain your opinion on the extent to which performance of the firm has been achieved over the last 3 years.

16. By what level has the firm performed in each of the following dimensions? Please rate the performance of the firm in a scale of 1-5 where: **1 = below 0%, 2 = none (0%), 3= between 1 - 10%, 4 = between 10 - 20%, 5 = over 20%.**

We have experienced notable change in the following dimensions of performance in our organization;	**1**	**2**	**3**	**4**	**5**
Increase in Profits					
Revenue Growth					
Growth of Sales volumes					
Growth of market share					
Growth of firm assets					
Growth in number of customers					
Speed of reaction to customer complaints					
Reputation of firm's brands					
Overall employee Satisfaction					
Employee reward					
Investment in employee development					
Expenditure on CSR programs					
Employment of minorities					
Number of social programs					
Use of Recyclable materials					
Expenditure on solid waste disposal					
Energy saving initiatives					
Board Independence					
New Board members					
Company policies reviewed by the board of directors					

17. In your opinion, how has membership in East African Community affected performance of food processing firms in Kenya?

_____

_____

THANK YOU FOR YOUR COOPERATION

APPENDIX IV

Researcher's Introduction Letter

To Whom It May Concern

Dear Sir/Madam,

RE: DYNAMIC CAPABILITIES ON THE PERFORMANCE OF SELECTED FOOD MANUFACTURING FIRMS IN KENYA IN KENYA.

I am a Doctor of Philosophy (PhD) candidate in the Department of Business Administration, School of Business - Kenyatta University. As part of the requirement for the award of the degree, I must undertake a research study on the above-named topic.

To help in the completion of this thesis, I wish to humbly request for your help with certain data from your organization. I have attached a copy of the questionnaire. Kindly answer all the questions as completely as possible. The research results are intended for academic purposes only and will be treated with utmost confidentiality. No specific reference will be made on your organization and only the summary results will be made public.

I look forward to your kind support and remain most grateful for your cooperation.

Yours faithfully,

Gabriel Kitenga
+254 714908315
gkitenga@yahoo.com

APPENDIX V

KENYATTA UNIVERSITY AUTHORIZATION LETTER

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

OUR REF: D86/CTY/26925/13

Date: 28th May, 2019

The Director General,
National Commission for Science, Technology & Innovation,
P.O. Box 30623,
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR GABRIEL KITENGA REG. NO. D86/CTY/26925/13

I write to introduce **Kitenga** who is a Postgraduate Student of this University. The student is registered for Ph.D. Degree programme in the **Department of Business Administration in the School of Business.**

Kitenga intends to conduct research for a Ph.D. thesis entitled,**"Dynamic Capabilities and Performance of Selected Manufacturing Firms in Kenya".**

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
DEAN, GRADUATE SCHOOL

RM/cao

APPENDIX VI

NACOSTI AUTHORIZATION

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone:+254-20-2213471,
2241349,3310571,2219420
Fax:+254-20-318245,318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/19/17886/31460**

Date: **23rd July, 2019.**

Gabriel Muthiani Kitenga
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"The effect of dynamic capabilities on manufacturing firms in Kenya."*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for the period ending **23rd July, 2020.**

You are advised to report to **the County Commissioner, and the County Director of Education, Nairobi County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

GODFREY P. KALERWA., MSc, MBA, MKIM.
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County.

APPENDIX VII

RESEARCH PERMIT

THIS IS TO CERTIFY THAT:
MR. GABRIEL MUTHIANI KITENGA
of KENYATTA UNIVERSITY, 460-100
Nairobi,has been permitted to conduct
research in *Nairobi County*

on the topic: *THE EFFECT OF DYNAMIC CAPABILITIES ON MANUFACTURING FIRMS IN KENYA*

for the period ending:
23rd July,2020

.....
Applicant's Signature

Permit No : NACOSTI/P/19/17886/31460
Date Of Issue : 23rd July,2019
Fee Recieved :Ksh 2000

.....
Director General
National Commission for Science, Technology & Innovation

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is guided by the Science, Technology and Innovation (Research Licensing) Regulations, 2014.

CONDITIONS

1. The License is valid for the proposed research, location and specified period.
2. The License and any rights thereunder are non-transferable.
3. The Licensee shall inform the County Governor before commencement of the research.
4. Excavation, filming and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
5. The License does not give authority to transfer research materials.
6. NACOSTI may monitor and evaluate the licensed research project.
7. The Licensee shall submit one hard copy and upload a soft copy of their final report within one year of completion of the research.
8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice.

National Commission for Science, Technology and innovation
P.O. Box 30623 - 00100, Nairobi, Kenya
TEL: 020 400 7000, 0713 788787, 0735 404245
Email: dg@nacosti.go.ke, registry@nacosti.go.ke
Website: www.nacosti.go.ke

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEARCH LICENSE

Serial No.A 25908

CONDITIONS: see back page