SUSTAINABLE LOGISTICS MANAGEMENT PRACTICES AND COMPETITIVE ADVANTAGE AMONG FOOD AND BEVERAGE MANUFACTURING FIRMS IN NAIROBI COUNTY, KENYA

BY

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DECLARATION

I declare that this research project is my original work and has never been submitted to any learning institution or organization for any examination or award.

REGISTRATION NO: **D61/13268/2018**

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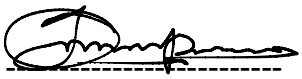
Signed  ----------

Dated: …30TH November, 2023

This research project has been submitted for examination with my approval as the university supervisor.

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DEDICATION

To my Mum Flora Oeko Irario, my Dad Leonard Leboni Irario for their earthly source of my being and their special blessings that have enabled me succeed in this study.

To my siblings Eddy Ilebun, Caroline Auma, Maria Nakhabi, Ken Makokha, Jamila Irario, Tonny Onyiko, Anita Irario, Patrick Irario and Diana Adhiambo who have faith in my academic voyage and boundlessly prayed for me to the fruition of this Study.

To my all time academic mentor George Maurice Okoth Onyango, and Yusuf A. Yusuf who tendered me with an academic wall to lean on to the endmost moments of this Study.

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ABBREVIATIONS AND ACRONYMS

3PS	Three pillars of sustainability; people, planet, and profit
BOK	Body of Knowledge
CA	Competitive Advantage
CO	Company
CO2	Carbon dioxide
CSCMP	Council of Supply Chain Management Professionals
CSR	Corporate Social Responsibility
DHL	Dalsey Hillblom Lynn
EA	East Africa
EABL	East African Breweries Limited
FBMF(s)	Food and Beverage Manufacturing Firms
GDP	Gross Domestic Product
GSCM	Green Supply Chain Management
GSCP	Green Supply Chain Practices
GSDR	Global Sustainable Development Report
IS	Information System
ISO	International Organization for Standardization
IT	Information Technology
JIT	Just-in-Time
K	Kenya
KAM	Kenya Association of Manufacturers
KEMSA	Kenya Medical Supplies Authority
KWAL	Kenya Wine Agencies Limited
LLC	Limited Liability Company
LS	Logistics Systems
LTD	Limited
MBA	Master of Business Administration
MDG	Millennium Development Goals
NEMA	National Environment Management Authority
NGOs	Non-governmental Organizations
RL	Reverse Logistics
SC	Supply Chain

SCM	Supply Chain Management
SD	Sustainable Development
SLMP	Sustainable Logistics Management Practices
SMES	Small Medium Enterprises
SPSS	Statistical Package for Social Sciences
SSCM	Sustainable Supply Chain Management
UNMS	United Nations Member States
WCED	World Commission on Environment and Development

ABSTRACT

The integration of sustainable management practices has become a transformative force in businesses, challenging conventional approaches and making sustainability a core aspect of Supply Chain Management. The general research objective of this study was to establish the relationship between sustainable logistics management practices and competitive advantage of the FBMFs in Nairobi County, Kenya. This study was guided by two objectives: to establish the extent to which sustainable logistics management practices have been embraced by food and beverage manufacturing firms in Nairobi County, Kenya and examine the connection between sustainable logistics management practices and the competitive advantage of these firms. A descriptive blueprint was acceded to and results presented in tabulations. The study focused on seventy-seven FBMFs whereby data collection aftermath obtained fifty-two responses from the targeted universe. Based on the first grail, sustainability engagements by FBMFs on environmental lines showcased a pronounced extent of incorporation to a large magnitude followed by and socially-related practices to a large extent as economic activities registered the least with overall rate of adoption registering a moderate score. The outcome on second objective affirmed that sustainable environmental, social and economic practices were significant in explaining the changes in the competitive advantage of the Nairobi County FBMFs. The tool used to model competitive advantage facets on a multiple platform indicated stronger relevance on quality, speed, cost and flexibility as evidenced by their overall R squared in that array respectively. Consequently, ANOVA analysis on the second grail revealed a highly significant p-value indicating substantial differences among the compared groups. The R-squared value indicated that observed variations in competitive advantage could be attributed to the inclusion of sustainable environmental, economic, and social practices. In search of superior sustainability and green labels of logistical management, a recommendation was arrived at for FBMFs to embrace a holistic approach pegged on the pillars of sustainability as they establish safer working environment for their employees and ensure fair remuneration that matches the work performed. It is strongly recommended that these firms consistently ensure compliance with tax regulations and operate within the established legal boundaries of the country to avoid potential financial burdens associated with non-compliance and mitigate the risk of costly tax penalties. The scope of the research was seen as a major limitation to this study. The study exhorts that forthcoming explorations and research journeys be conducted on strategic employee capabilities and CA of FBMFs beyond Nairobi County, Kenya.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Sustainable logistics management practices dominate and occupy a pivotal stance in the global view with a major role as transformers of businesses hence challenging the status quo through converting sustainability into the integral software of Supply Chain Management (Nyaga, Lynch & Whipple, 2020). In this current, competitive and technologically advancing business environment, companies that embrace an intertwined sustainability strategy, create added business value, apart from registering a positive environmental and social impact (Grant, Edgar, Sukumar & Meyer, 2013; Mwirigi, 2013; Achuora, 2018). Supply chain management is observed by food and beverage executives as a vital business strategy to thrive and succeed in this dynamic and challenging environment.

Honchfelder (2017), in his research release, affirms that in search of healthier food with no harm to health, firms are left with no choice but to embrace sustainability which is gaining a profound effect on the global food-related chains. Sustainable Logistics management aims at creating a sustainable firm value by having comestible considerations in form of balance in economic, social, and environmental efficiency (Thiell, Zuluaga, Montanez, Hoof, 2011; Hoessle & Ulrike, 2013; Stuttgart 2010).

The manacles that tend to shape supply among Food and Beverage Manufacturing Firms (FBMFs) are drifting from activities that are operational to strategically natured (Baumgartner & Rauter, 2017). Yehezkel & Ben-Moussa (2019) posit of a rise in focus on consumer demand related to environmentally conscious undertakings regarding business practices whereby corporate settings have been seen operating under high pressure to justify a commitment to holistic conservation. An untold integer of companies have embarked on investment approaches in redesigning

alternative firm logistics oriented practices, geared towards creating overall positive environmental impact and remain modern in a market that has experienced sporadic inevitable behavioral patterns in recent years (Richter & Hampton, 2019).

The study was inaugurated around Institutional, Network and Systems theories. Expositions by Meyer and Brian Rowan (1977) reveal that Institutional Theory provides a means that business mindsets can explain further how firms are related and shaped by their societal, national, state, and global environments. Network and Systems Theory formed a beneficial fiber to the study. Expositions by Wellenbrock and Luai (2011)) revealed that the best articulated SC networks are designed and managed by firms most specifically as the companies are incorporating sustainability of SC activities into their tactical operations. The Theory of Systems asserts that the entire constituents making up a network are interconnected and that their sum is far better than the summation of its segments. Wellenbrock (2013) underpins that Network Theory is best suited to firm-related engagements espousing on the intrinsic relationships in their supply line and partners in the value chain such as distributors, buyers, contractors, customers, suppliers and companies.

1.1.1 Sustainable Logistics Management Practices

Sustainable Logistics Management evoke a collection of upstream and downstream firm labels looked at as the analytical process and embracement of sustainable procurement, transportation, packaging, distribution, reversed logistics, design, and control of sustainable supply link activities (Martins & Pato, 2019). The World Commission on Environment and Development (WCED, 1987) defines Sustainable development as the development that meets the needs and desires of the present or current generation without interfering or compromising the capability of future generations to meet and realize their own needs. In a nutshell, one is bound to agree

that logistics envelopes managerial aspects of acquisition, transportation, maintenance of materials, facilities, and people. Logistics undertakings are strategic for firms hence critical for business success (Chen & Bidanda, 2019; Eroglu, Kurt & Elwakil, 2016).

The absorption of sustainable shaping principles and guidelines in the handling of logistics operations is a subject of emerging concern among academic researchers. Bandeira, D'Agosto, Kibeiro & Bandeira (2018) and Stindt (2017) observe that the metrics of the sustainable logistics operations can massively give input towards realizing the sustainable development goals suggested by the UN. Sustainable logistics management practices (SLMPs) include lowering the ecological footprint of its tasks, such as carbon dioxide (CO_2) emissions, noise pollution and accidents (Appel, 2019).

Researchers and academicians on sustainable logistics management have maintained that there is a need to switch sustainable practices such as a move to more environmental-friendly and efficient vehicles (Campos, 2020; Solistica, 2019; Cedillo-Campos 2013; Grabara, 2013). Both supply chain and manufacturing models designed and customized towards targeting sustainability are currently a focal point for firms and deemed a pronounced challenge to them. This strategy aims at optimizing the utility of valuable resources and eliminating the unnecessary ones, thus recovering to avoid squandering resources, reducing waste and reusing when possible. Besides impacting on the improvement of the environment, it also registers savings that increase the profitable constructs of the distribution process (Solistica, 2019; Cedillo-Campos 2013).

1.1.2 Competitive Advantage

Jurevicius (2013) decipher competitive advantage (CA) as the factors fostering firms in producing or manufacturing goods and/or services better than or with high quality and fair prices than its rivals. CA acts as a distinguishing factor of a company from its competition, customized to justify higher prices, embrace brand loyalty and more customers. Establishment of such a platform is among the most significant targets for any firm in the corporate network. The absence of CA will make it difficult for companies to survive (Root III, 2017).

It allows companies to register high sales and superior profitability ratios as benchmarked with its market setting rivals. CA is linked to various factors inclusive of cost structure, distribution networks, intellectual property, customer service, product offerings quality and environmental preservation. Twin & Somer (2020) avow that competitive advantage is the company's capability to manufacture a good or provide a service more quite efficiently than its rivals, leading to realization of high profit projections.

Today, sustainable CA can be analyzed through several characteristics enshrined in the sustainability publication; social, environmental, and economic pacts (Sahay, 2016). Building from observations by Anosike et al. (2020) on competitive advantage, through the management of operations lens; a corporate setting's CA may also be achieved through quality commitment, dependability in form of speed and shortened lead times, and flexibility in response to fluctuating market demands with respect to tastes and preferences (Slack et al., 2013; Shakkya, 2013; Ferdows and Meyer, 1990; Vencataya et al., 2015). This study hence analyzed the firms' CA on the realms of cost aspects, flexibility dimension, quality and hallmarks of speed.

1.1.3 Food and Beverage Manufacturing Firms in Kenya

Smit and Git4hara (2019) view food and beverage manufacturing firms (FBMFs) as very essential units in our operant economy in line with the role they play in providing food to Kenyans, creating jobs, wealth creation, reducing or eradicating poverty and desirable accorders to the state's GDP. Beverage manufacturing firms should be proactive starting with sustainability since customers, investors, and employees deeply care about this (Nielsen, 2018).

Thomas (2020) maintains that in accordance with the variations in the private setting labeling market niche, the food and beverage industry is relentlessly looking for ways to avail more unique and sustainably packaged products on the shelves through online platform to address the prevailing challenges of contemporary consumer demands.

The study settled on the FBMFs within the county of Nairobi due to their persuasive locus in the industry as one of the most essential components of several economies across the region, and hence permit the findings harnessed and derived from this study to adopt a wide scope of applicability; not only in the county of Nairobi, but in the wider Kenya, African countries and the entire world at large.

KAM (2020) Industry-Related Data compilations provide that the county of Nairobi has approximately seventy-seven (77) firms engaged in the activities orbiting around manufacturing of beverages and food. Shacklett (2019) denotes that in the subject industry, manifestation of sustainability into environmental initiatives, responses and responsibility depict a measurable amount of influence in the current increasingly environment-sensitive consumer market.

The industry setting continues to register a positive impact towards the attainment of MDGs (Lucas, 2007). The sub-sectors under food and beverage companies include:

Bakers & Millers; Alcoholic Spirits & Beverages; Chocolate, Dairy Products; Juices/Waters/Carbonated, Soft Drinks and Sugar Confectionery; (KAM, 2020). This study focused on the firms that manufacture Juices, Waters and Carbonated Soft Drinks within the confines of Nairobi.

Sustainability in beverage industry carries a consistent importance at the present moment as soils structures are undergoing depletion, forested tracts of land get deforested, fresh water supplies get diminished and climate fluctuating adversely impacting on food security and supply chain (Ahlen, 2019).

1.2 Research Problem

Sustainability is now on the front-page news, where food and beverage manufacturing is right in the middle of it (Yehezkel & Ben-Moussa, 2019; Dombroski, 2020). Holman et al (2018) reviews that there exists a masked unprecedented velocity and scope of morphology to address customer satisfaction in terms of demanded product complexity, delivery lead time of a product, a positive return on the shareholders' invested capital and requirements of stakeholders in environmental and social aspects. Karaman et al. (2020) avow on the existence of socioeconomic swings and ecological predicaments linked to the insensitive nature on non-ethical activities witnessed when firms are obtaining raw material, doing production, transporting their offers and carrying out disposal.

United Nations Member States (UNMS) are getting more and more committed to the ambitious but achievable 2030 Agenda for Sustainable Development. Countries are charting new paths of balance for humanity and the planet. Steps are being taken, and innovative partnerships are taking shape (Global Sustainable Development Report, 2019). The Global Sustainable Development Report (GSDR) recommends that Kenya

should be part of sustainable development initiative by embracing sustainable SCM undertakings especially in the food and beverage industry.

A good collection of scholarly studies have been done globally to resolve the issue of sustainable logistics management and its contribution to the firms' competitive advantage. Gajsek and Herzog (2020) observe that the aim of a sustainable Logistics System (LS) that is sustainable is to enhance profitability and scale down undesirable ecological externalities. Neto et al. (2008) conclude that logistics networks should be designed to mitigate negative environmental impacts, ensure cost minimization and ethical business operations. Regionally and locally, various studies examined show a link in the contributions of sustainable logistics management to firms' success. Ikegwuru and Henshaw (2020) on GSC and operational performance concluded that GSC activities positively and importantly affect environmental sustainability. Amoah et al. (2017) maintain that firms should embrace automated RL programs so as to reduce cost in the long run as well as to remain competitive. Nduto (2014) posits that adoption of green logistics management helps logistics service providers in Nairobi to remain competitive and retain customer loyalty. Vashita (2012) observes that GSCM leads to competitiveness across FBMFs in Nairobi, Kenya.

The study was constructed on the postulate that most studies carried out tend to emphasize on a single element of sustainability as none has been performed in the FBMFs within Nairobi County to tackle the triple bottom-line of SLMPs and CA. The study aims at sealing the emerging gap by responding to the successive research questions: What is the extent of SLMPs adoption by FBMFs in Nairobi County? What is the association between sustainable logistics management practices and competitive advantage of FBMFs in Nairobi County?

1.3 Objectives of the Study

The general research objective of this study was to establish the relationship between SLMPs and CA among FBMFs in Nairobi County, Kenya

This study was guided by the following specific objectives:

i) To establish the extent of sustainable logistics management practices adoption by FBMFs in Nairobi County.

ii) To determine the relationship between sustainable logistics management practices and competitive advantage of the FBMFs within Nairobi County.

1.4 Value of the Study

The aftermath symbols of this study offer a profound platform for policy-framers, decision-makers and strategists in the food and beverage industries globally, with a sound basis and insights upon which strategic policies on embracing on how to achieve sustainable development goals can be conceptualized, implemented and monitored.

Conclusions and recommendations summarized in this study will help stakeholders in the subject industry to gain more concepts and ideas on how to device the most modern business process re-engineered models on sustainability. The outcome of this study is of profit to shareholders, stakeholders, consumers, regulators, partisans in the food and beverage manufacturing industries together with the entire general public with recommendations and visions that they can collectively indulge in to pave way to a foreseeable future that is very sustainable.

The findings are also of importance to future scholarly fellows and researchers in the fields connected to this area of study in their furthering of investigative endeavors in search of knowledge. The results are also expected to enrich the bank of knowledge as a platform of reference.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a reflection on literatures related to the problem under study. Theoretical frameworks upon which the study findings are based, the dimensions of operational performance from which firms derive their competitive advantage and deeper insights into SLMPs are also embraced in this chapter. This chapter seals its contents with a summary on empirically reviewed literature intertwined with research gaps as it winds up with a framework on the applied concept.

2.2 Theoretical Literature Review

Theoretical foundations are of value as the reader is guided on how to internalize the findings of the study in a more elaborate context (McLeans, 1972). This study was embedded on three theories; Systems, Network, and Institutional Theories whereby the Institutional Theory occupied the dominant position on which this study was anchored. The theories were weighed up to be relevant to the study at hand as subsequently espoused.

2.2.1 Institutional Theory

This ideology is pegged to John Meyer & Brian Rowan in the sunset moments of 1970's as a means to explain further how firms are related and shaped by their societal, national, state, and global environments. The theory utilized a unique style in line with the study of political, economic, and social dynamics (DiMaggio & Powell, 2000). It also focuses on the functions of political, economic, and social interactions under which firms operate and obtain their legitimacy (Jonge, 2015; Glover, Champion, Daniels & Dainty, 2014). It asserts that organizations seek to protect or

improve their legitimacy by adhering to the expectations of the stakeholders and institutions that envelop the very organizations (DiMaggio & Powell, 2005).

The food sector of late has to fight with various contemporary competing pressures in relation to the emerging problems of sustainable production (Boiral, 2006). Scott (2004) observes that Institutional theory revolves around a surgery of how the firm's social structures comprising strategies, rules, schemes, routines, and norms become enacted as authoritative guidelines towards sustainability for organizational behavior. In the field of sustainability, Delmas and Toffel (2004) observe how the significance of the institutional theory in explaining a firm's agility to environmental issues is recognized conceptually.

Jennings and Zandbergen (2010) further observe that in theory of organizations, the model of realizing sustainability can be approached through the process of adaptation. The range of adaptation can be viewed from general organizational strategy to very specific responses. Zhang, Wang, and Lai (2015) maintain that institutional theory concentrates its lens on the establishment of extrinsic factors that impact the implementation of sustainable environmental engagements in business operations. Institutional Theory can be applied to espouse the basis of morphology in technological advancements, regulations, and social values affecting decisions pertaining 'green' activities of sustainability (Ball and Craig, 2010; Rivera,2004).

2.2.2 Network Theory

The theory was espoused around (1970-1980s) focusing on links between firms and connecting processes geared towards a prevailing mutual advantage (Harland, 1996). The Network theory is centered on establishing the interaction common amongst the members of a SC (Flint, 2004; Bentham et al., 2003). It provides a solid platform on

how to visualize and examine the sophisticated and volatile systems in supply networks, how they make use of the smarter connections and relationships involved in the network (Marat, 2020). Networks have shown to be of greater significance in a number of industries when cooperating with partners such as providers of logistics services, customers, and suppliers (Watiri & Kihara, 2017). The theory can aid a firm segment signal from noise hence base decisions on more specific and accurate information (Marat, 2020; Flint, 2004; Marin & Uta, 2000).

This theory was vital to the study in the sense that it laid the foundation upon which the research findings were interpreted. The theory provided a foundation upon which social networks towards sustainable logistics management implementations were investigated. Logistics is a network of activities that a business uses to embrace the throughput of goods from their raw state through production and to customers. It is the interrelatedness of systems and operations that work together to configure resources, design and manufacture, and avail the aftermath outcome to the market. This runs from extraction or raw materials configuration all the way to the point when the product is availed to stores or directly to ultimate consumers. The theory hence provided the rationale and the basis upon which sustainable logistical networks were created and modeled.

2.2.3 Systems Theory

Systems theory treats an organization as a system. It pictures the globe as a link of processes and resources geared towards meeting shared and mutual ends. Sustainable development entails three sub-systems, linked to a model of a three-legged triangle: Environmental (Ecological), Social and Economic postulates (Nemetz, 2007; Ashby & Hudson, 2012). Handfield and Nichols (1999) argue that the entire 'Logistics Renaissance' era has been realized. Featured by logistics networks and time-reducing

information technologies, it is geared towards meeting the contemporary issues of globalized markets, rapid growth in the domestic and international competitive environment and stabilization of political economies.

This theory was of great importance to this research paper in the sense that it did not only provide the basis upon which the research findings were interpreted in terms of interconnectedness of different sustainable logistical activities working together towards the attainment of competitive advantage, the theory also provided a rationale for understanding, initiating and maintaining sustainable logistical activities consisting of various elements that function harmoniously so that the bigger system can operate optimally, to remain at the competitive centre in the business landscape.

2.3 Sustainable Logistics Management Practices (SLMPs)

Carter & Rogers (2008) acknowledge that the notion of a sustainable supply chain ought to be riddled in the analogy of a triple bottom line, as manifested in economic, environmental and social aspects. Triple bottom approach is concerned with registering high financial performance, protecting the environment and achieving extra social responsibility. A limited and short lived approach to sustainability is not suitable (Jabbour et al., 2019). Sustainable logistics is directed towards lowering the ecological footprint of its operations, such as CO_2 emissions, accidents and noise pollution. Solistica (2019) advocated that SLMPs may be achieved through switching to environmental-friendly vehicles that are more efficient, having softwares which helps one balance loads and compute carbon footprint, choose renewable energies, support Green Logistics, and implement the 4R strategy: Reduce, Reuse, Recycle, and Recover, and getting environmentally required certifications.

Green logistics and green transportation have been the front-page topics in current manufacturing settings (Lu et al., 2019). The major goal for embracing green transportation is the highly registered emission of CO2 gas dating since early 1990s, which poses a risk to environment through transportation of freight. Lu, Chen & Tang (2019) itemized that the aim of green logistics is to do away with the environmental effects manifested within logistical activities so as to achieve sustainable social, environmental, economic and cultural advantages. Saada (2020) avows that green transportation and green logistics play an important part in lowering the intake of energy and fuel aiming at reviving and renewing the fuel instead of using fossil fuels.

Green packaging of products plays a vital role in logistics; it protects the products against damage during transportation as well as giving vital and detailed information to the customers about the product's handling guidance, as a suitable packaging allows easy storage of products (IRC Group, 2018). Palsson (2018) views efficient and effective packaging as a blueprint that can valuably uplift the performance of firms by minimizing costs, scaling down the negative environmental impacts and creating value in supply chains. Ninlawan (2012) sees green packaging as the efficacy that the firm in question applies green packaging using customized materials, promotes recycling and reuse, and/or schemes on standardized ways of packaging. Apart from scaling down the impact on the environment, a company's bottom-line approach can also be boosted through sustainable packaging (DHL, 2020).

RL entails the process of managing goods right from their ultimate stage of usage or utility to the point of source or origin. It focuses on maximizing recovery of assets and SC efficiency, minimizing costs as well as improving the experience of customers. It forms the most sustainable means for disposing, recycling or reselling the product offerings that are reentering their chains of supply as well as fast and cost-effective

(Sensing, 2020). Banihashemi, Fei & Chen (2019) concluded that the application of RL as a strategic choice has drawn significant sensitivity among companies as a result of beneficial contribution to sustainable development. Furthermore, Rogers & Tibben-Lembke, 1999; Stock et al., 2002; Aitken & Harrison (2013) explain that well managed reverse logistics activities can enhance sustainable development and provide a basis for CA through reduced cost, improved customer satisfaction, and increased profits.

Table 2.1 Synopsis of Sustainable Logistics Management Practices

Sustainable Social Practices	Sustainable Environmental Practices	Sustainable Economic Practices
Employee safety and security	*Green energy*	*Value gained from money*
Fair remuneration	*Green packaging*	*Fairly structured competition*
CSR	*Proper waste management*	*Tax-related laws*
Stakeholders' involvement	*Carbon footprint*	*Auditing Requirements*
Adherence to labor law	*Toxic gas control strategies*	*Financial-Related Reporting*
Good working conditions	*Green logistics*	*Lean Models of Management*
	RL	*Ethical Way of Sourcing*
	Clean energy	

Source: Research Data (2023)

2.4 Competitive Advantages on Firm Operational Performance

The study utilized the four operational performance objectives as strategies for attaining competitive advantage through the adoption of sustainable logistics management practices. LaMarco (2019) sealed his study saying that operational performance objectives comprise the concerned areas of key interest that each firm especially in the FBMFs industry is trying to improve, in order to achieve its corporate strategy. These business objectives include: Increasing efficiency, fewer unexpected events, rapid response, minimum inventory, minimized logistical and transportation cost, and quality improvement. Vencataya (2015) maintains that the foundation of decisions pertaining operations is deeply rooted on the goals of the 3Ps,

the investors' heeds, and CSR. These goals are in form of cost, flexibility, quality, and speed dimensions.

Cost, as itemized by Kimmel et al. (2002), is the element in a manufacturing organization depicted as a manifestation of itself within operational costs comprising cost of labor, taxes, energy, rent (factory), maintenance, cost of raw materials', transportation, wages, patent charges, pensions and paid commissions. Elimination/reduction of costs across the supply network enhances a firm to operate on lower competitive market prices paving way to cost advantage (Vio, 2011). Lombardo (2018) argues that competitiveness in terms of cost may be optimized in a case where a firm makes use of its skilled manpower, raw materials of low-cost and expenditures that are controlled. It is on this backdrop that the study at hand intended to determine how the firms have incorporated sustainable logistics management practices into their day to day undertakings to assist in cost reduction and cost management, how those sustainable practices have led to production of quality outputs, how it has contributed to flexibility in the firms response to different changing market demands, how the adoption of such sustainable practices have led to the firms being depended on by their customers in terms of meeting their demands, and how it has led to quick response to the customers' demands in time.

Silva, Goncalves & Leite (2014) indicated that logistics costs are very crucial in the composition of management costs of a company. Pudło and Szabo (2014) identified seven logistics cost categories such as "costs of maintaining inventories materials, transport costs, storage costs of raw materials and semi-finished products, logistics administration, costs of maintaining stocks of finished products, opportunity costs, warehousing costs of finished products, and administration costs involved in logistics processes".

Quality as affirmed by Miller (1992) and Oakland (1993) is a facet representing the invariable conformance to ultimate customer expectations. Lee (2018) confirms that majority of clients perceived a product's prevailing market sale value to be an important ingredient in selecting where to disburse their disposable income, however, in future; a business can reap more after designing product offerings of superior-quality intertwined with customer service rated with excellence. Compliance to quality increases and enhances satisfaction to customers. Logmore (2020) discerns that providing quality service that is exceptional is what brings the difference from the competition allowing customer loyalty. Logistics management directly influences the quality of a product and the overall profitability of a firm. Based on these arguments, quality control in logistics management is significant for sustaining firm’s competitive model in the market and lowering costs of operations. DeBenedetti (2020) remarked that in the absence of quality control, waste gains prevalence beyond a tolerable amount.

Speed as a facet of competitive advantage is felt anytime a going concern is able to experience faster processes than its competitors, as the very firm is deemed to enjoy or register some level of performance achievement. In price competitive industries, speed can be viewed as the distinguishing element of competitive edge. Firms across various sectors have promptly noticed that speed can be configured to develop a CA. Edwards (2016) discovered that speed can be grouped under various classes comprising speedy delivery, speedy service and speed to market as Howe (2019) interjects that in this fourth industrial era, speed is not only also its biggest advantage but also a business’s biggest differentiator. Time is always of the essence in logistics.

In search of what brings efficiency, Rodrigue, Slack & Comtois (2020) remarked that increasing the time of flows and the distribution system velocity increases firm

efficiency. Speed is regarded a weapon of competition. Stein (2014) states that viewing speed as a postulate of CA makes a firm do more using less in a faster manner as Slack et al. (2013) stated that for a firm in operation, speed lowers the sum of stock levels kept by that firm as well as risks incurred. Making speed a priority has minimized operational friction in the functional areas of the businesses, joining teams together to look for solutions that yield a better equilibrium for real business concerns unlike those of a single department (Howe, 2019).

Flexibility needs have been exerting global competitive pressures forcing companies to be agile and active. Response to fluctuating environmental conditions offers a significant platform for a firm to determine its net performance. Garg, Goel & Garg (2017) found out that organizational agility is closely linked to the management of information systems. Tosun & Uysal (2016) implied of success in a competitive and unpredictable business habitat as a thing that accumulates when organizations react to the changing clientele's tastes and preferences promptly whereby SC agility becomes a portion of this acknowledgement. Kara, Kayis & Kane (2007) make an allusion of agility in a corporate setting to be something that entails its endowment muscle to respond to the often intensifying and shifting customer needs in an expedited fashion at low cost.

Udokporo et al (2020) argues that in the present modernized business world, companies are left with no options but to adopt agility. Operationally too rigid businesses are prone to experience failure. Tosun & Uysal (2016) disclosed that the withering fiber in customers' loyalty can be easily witnessed when a company is not able to deliver any of customer desires within stipulated duration. Holweg & Pil (2001) tendered that the swiftness at which firms arrive at verdicts, modify current orders and alter plans to honor customer needs is what defines process flexibility.

Boyer & Leong (1996) view mix flexibility as the manufacturing ability of plant's operations in producing varieties of a product. High mix flexibility configuration of plants leads to a combination of greater product variety with shortened lead times. Jain et al. (2013) interprets flexibility in terms of volume as the operational capacity of firms to yield different volumes whereas Tosun & Uysal (2016) view flexibility in terms of delivery as the operational capability of a firm to adjust the clock of freightage of offers in reaction to dynamic clientele preferences.

Table 2.2 Synopsis of Competitive Factors on Operational Performance

Area of Competence	***Granted Firm Competence;***
Cost	Reduced or lower Prices
Quality	Superior product Value
Speed	Prompt Deliveries & shortened lead-times
Flexibility	Varying bulk of product/service deliveries, Frequent new products/services; Various products;

Source: Research Data (2023)

2.5 Empirically Reviewed Literature and Notable Gaps

We live at a time of sustainable development uptake that is unprecedented in its pace, scope and depth of impact (Ong'olo & Kuguru, 2002). The industry engaged in FBMFs comprises of a significant comprehensive size of the manufacturing sector in Kenya, creating employment, earning revenue to the government and foreign exchange from exports. Buech (2018) observes that consumers' world over, prefer to buy food and beverage products from suppliers who are environmentally conscious, observe ethical standards and have a clear conscience of sustainable economic activities throughout the entire production and value chain.

Amoah et al. (2017) maintain that firms should embrace automation of their RL programs designed to minimize cost in the foreseeable future, to remain competitive.

Van Rensburg (2015) maintains that firms should endeavor to achieve sustainability so as to register fuel efficiency and improved profits, reduced logistics costs and emissions as well as achieving a CA and delivering customer requirements. It continues to make waves in the corporate world, particularly where food and beverage players are integrating sustainable logistics management initiatives into their business practices (Rosso, 2020; Cooper, 2019).

Table 2.3 Synopsis of Empirically Reviewed Literature & Research Gaps

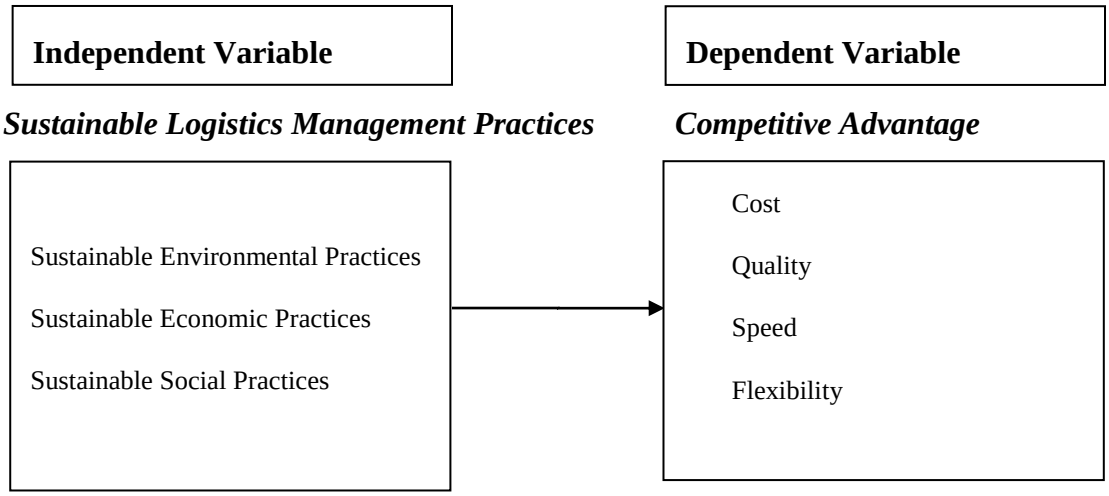
Author(s)	Focus of Study	Methodology	Findings	Knowledge Gaps	Current Study Focus
Donten & Crespin (2012)	*Sustainable packaging practices and SCM performance in KEMSA*	A case study Descriptive design	*KEMSA doesn't have reliable SPP. SPP could be of great value to KEMSA*	The study assumed other aspects of triple bottom line approach of sustainability	*The study focused on all SLMP*
Kothari (2014**)**	*SCM Incentives & Operational Performance of food franchising outlets in Kenya*	Descriptive Survey Design	*Regulations, competitors, pressure from customer are incentives in SSCM*	The paper focused on environmental sustainability	*The study focuses on 3Ps*
Mugo (2015)	*The influence of SCM Practices on CA*	Descriptive Survey Design	*The market must have Knowledge on SD practices Product development, lead time, inventory management, all positively affected performance*	The study majorly focused on SCMP, leaving a gap for sustainability in Logistics Management (SLMP)	*The current study focused on all the SLMP*
Okello and Were (2014)	*Impact of SD on Distributors Purchasing strategy*	Exploratory case Study	*It is hard to adopt SD alone if the industry hasn't taken that direction*	The study focused on upstream chains and ignoring downstream chains of supply	*The current study focused on FBMFs in Nairobi*
Mbaabu (2016)	*Green Practices & SC Performance in government hospitals*	Adopted a Census survey	*Green practices positively impact on the performance of supply*	The study focused on hospitals other than FBMFs	*The study focused on FBMFs*
Richnaik & Gubova (2021)	*Green logistics and Sustainable development*	Descriptive, qualitative	*Green Logistics improves customer supplier relationship*	Focused on green logistics and not sustainable logistics	*The current study considered all sustainability dimensions*

Source: Research Data (2023)

2.6 Conceptual Framework

The framework depicts the existing association amidst variability elements under examination. Competitive advantage having cost, flexibility, speed and quality as its aspects formed the Dependent Variable. Sustainable logistics management practices whose elements were economically, environmentally, and socially sustainable formed the independent variable as outlined in the conceptual model below.

Figure 2.1 Conceptual Model



Source: Research Data (2023)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter sets forth a synopsis of the path set out and adopted to realize the objectives of the study. The chapter summarily captured the design adopted, targeted universe, approaches, models of data collection and the analytical approaches on collected data.

3.2 Research Design

This study adopted descriptive blueprint. The design is best for its pronounced accuracy granting the researcher a platform to systematically describe phenomenon the way they occur as well as responding to the questions when, what, how and where of the variability elements under study (Saunders et al., 2009; Kothari 2014).

3.3 Population

This study focused on all food and beverage manufacturing firms (FBMFs) within Nairobi County as its study units. The county had approximately 77 major FBMFs as catalogued by the Kenya Association of Manufacturers (KAM, 2020), served and summarized in the population frame (Appendix II). Based on the fact that the study units were relatively small, the study adopted census.

3.4 Data Collection

Primary data was gathered with the aid of structured questionnaires directed to heads of supply chains, operations management, marketing, finance and human resource departments in all the seventy-seven FBMFs within Nairobi County. Choice on questionnaires was supported by the fact that they are economical; provide room for consultation among respondents and regarded as the most effective in line with the investigated industry.

The questionnaires were segmented into four parts. Part A targeted general information: Part B sought facts on SLMPs as CA covered cost, quality, flexibility and speed as hallmarks of competitive advantage. A Likert's (five-point based) scale was applied to questionnaire parts B and C. The questionnaires were dispensed via mails and "Drop & Pick Later" approach viewed as objective-oriented approach of collecting data in this kind of study.

3.5 Data Analysis

Background-related Information and objective one; extent SLMPs are adopted among FBMFs within Nairobi County were scanned using descriptive statistics as findings were presented in percentages, standard deviations and mean. In search of whether there exists a relationship between SLMPs and CA among FBMFs, being the second objective, the harnessed data was fed into SPSS software in order to carry out regression analysis. The templates for regression were as follows:

$\mathbf{Y_1}, \mathbf{Y_2}, \mathbf{Y_3}, \mathbf{Y_4} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

Provided:

$\mathbf{Y_1}$ = Cost, $\mathbf{Y_2}$=Quality, $\mathbf{Y_3}$ =Speed & $\mathbf{Y_4}$=Flexibility

$\boldsymbol{\alpha}$ = Constant

$\boldsymbol{\beta_1}$, $\boldsymbol{\beta_2}$ and $\boldsymbol{\beta_3}$ = Regression coefficients pegged on dependent variables

$\mathbf{X_1}$ = Sustainable Environmental practices

$\mathbf{X_2}$ = Sustainable Social practices

$\mathbf{X_3}$ = Sustainable Economic practices

$\boldsymbol{\varepsilon}$= being the error term, an explainer of all missing variables

3.6 Summary of Data Collection and Analysis

For every intention of this study, data was gathered and subjected to evaluation as shown in synoptic model below.

Table 3.1 Synopsis of Data Collection & Data Analysis

Study Objective	**Questionnaire Parts**	**Data Analysis Tool**
Respondents Demographic Information	Part A	Descriptive statistics: (Percentages)
Extent of SLMP Adoption by FBMFs	Part B	Descriptive Statistics: (Mean and Standard Deviation)
Association between SLMPs and competitive advantage among FBMFs	Part C	Regression Analysis

Source: Researcher (2023)

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

This section sets out the presentation of analyses on collected data, study findings and discussion on deduced study outcomes. The mainstream study objective was embedded on determining the extent SLMPs have been adopted by FBMFs within Nairobi County. In addition, the research paper sought to establish the relationship between the practices of sustainable logistics management and the dimensions of competitive advantage of the firms that manufacture beverage in Nairobi County.

4.2 Response Rate

The study made use of a census approach to sampling subjecting all the 77 FBMFs within Nairobi County as enveloped in the population frame and served in Appendix II. Seventy-seven questionnaires were administered out of which 52 questionnaires were dully filled signifying a response rate of 67.5%. This measure is deemed befitting based on the threshold mark of 60 percent and above as an admissible rate to warrant research findings evaluation as offered by Mugenda and Mugenda (2000).

4.3 Respondents Demographic Information

A collection on demographic information profiled in the context of management levels held, department of call, and years of firm life was done to harness the intrinsic insights of respondents in the FBMFs and the aftermath results are as tabulated:

Table 4.1 Synopsis of Respondents Demographic Information

Category	*Classification*	*Frequency*	*Percent*
Management Level	Top	5	9
	Middle	29	56
	Lower	18	35
Department	Supply Chain Management	12	23
	Operations Function	14	27
	Human Resource Management	11	21
	Finance Accounting	9	17
	Marketing & Sales	6	12
Years of Firm Existence	Over 10 Years	11	21
	Between 5-10 Years	32	62
	Less than 5 Years	9	17

Source: Research Data (2023)

Table 4.1 displays outcomes indicating that a good share of the respondents emanated from the middle level of management with a score of 56% as the lower and top levels scored 35% and 9% respectively. This reflects a prevailing managerial level incongruity indicating that FBMFs have more middle level managers than the lower level contrary to the findings of Floyd et al (2017) who suggested on a normal firm structure of managerial distribution to adopt a pyramidal schematic. It also indicates that the research data was sourced from informed respondents' hence reliable for study.

The study further sought to unearth the functionality areas from which the respective respondents belonged. From the yields obtained after the analysis as outlined in Table 4.1, the unfolding show that 23% of the interviewees emanated from the supply chain management department, 27% from operations management, 21% from human resources management, and 17% from finance as the marketing department contributed 17%. These findings indicate balanced data obtained from respondents across the objective-touching departments, thus a comprehensive functional

exploration in sourcing of data for research from a wider spectrum to achieve the research intent.

Operational life of FBMFs in Nairobi was also analyzed in the study. Notably, as from table 4.1, 62% of FBMFs had a firm operational duration ranging between 5 to 10 years, 21% registering operational history of over 10 years as 17% had operational tenure of less than 5 years. Sixty-two percent of FBMFs projected operational life of 5-10 years, an indicator that more entry into the industry happened 5-10 years ago. Cumulatively, 83 percent of FBMFs is noted as a representation of firms with operational life transcending 5 years denoting a sign of spanned experience to offer a good platform for research.

4.4 Extent of Sustainable Logistics Management Practices Adoption

Feedback was obtained from respondents in relation to the first objective displaying how FBMFs within Nairobi County in Kenya have integrated SLMPs into their supply chain operations in order to acquire competitive advantage. The firm echelons in various functions selected for this study expressed their levels of feel on a Likert's Scale of 1-5 with regards to extent of sustainable logistics management practices adoption by FBMFs as a result of leveraging on pacts of competitiveness. The purpose was to mirror the respondents' level of accord or disaccord in line with the statements and the harnessed data was subjected to descriptive statistics and the following results were compiled as below;

Table 4.2 Extent of Sustainable Logistics Management Practices Adoption

Practices	***Mean***	***Std. Dev.***
Sustainable Environmental Practices		
We embrace green-based employee trainings	3.79	1.22
We purchases reusable and eco-friendly materials & parts	4.05	1.28
We offer reverse logistics & disposal services	3.15	1.03
We apply waste reduction mechanisms	3.95	1.20
We use renewable energy sources	3.96	1.17
Overall Tally	3.78	1.18
Sustainable Economic Practices		
We do ethical outsourcing to avoid penalties	3.87	1.31
We apply lean inventory techniques to minimize on costs	3.57	1.09
We embrace reverse logistics as a cost-saving strategy	3.13	1.11
We apply cutting-edge technology to enhance efficiency	3.76	1.13
We comply with tax stipulated laws	3.02	1.11
Overall Tally	3.47	1.15
Sustainable Social Practices		
We training employees to handle customers professionally	3.73	1.41
We value the well-being & safety of our employees	4.21	1.01
We train employees on road safety regulations and compliance	3.93	1.33
We adhere to guidelines and regulations outlined by labor laws	3.07	1.08
We consistently & fairly compensate injured employees	3.81	1.27
Overall Tally	3.75	1.22

Source: Research Data (2023)

Table 4.2 portrays respondents' affixing that FBMFs operated in accordance with the established sustainability pacts. Environmental pacts displayed an overall mark of (Mean=3.78, SD=1.18) as parameters annexed on economic and social dimensions registered (Mean=3.61, SD=1.15) and (Mean=3.75, SD=1.22) respectively.

Environmentally, marks on green-based employee trainings posted a mean of 3.79 and a Std. Dev. of 1.22 indicating that FBMFs get involved in that line to a large extent. Additionally, purchases of reusable and eco-friendly parts and materials posted a mean of 4.05 and a deviation from the standard of 1.28 indicating that their adoption is to a large degree whereas use of reverse and disposal services obtained a mean of 3.15, Std. Dev. of 1.03 which shows that FBMFs invested in those pacts

moderately. Application of waste reduction tools (Mean=3.95, Std. Dev. =1.20) and use of renewable energy sources (Mean=3.96, Std. Dev. =1.17) were embraced to a large degree. In a nutshell, it is therefore evidenced by the tabulations that adoption of environmental practices was embraced to a large extent by FBMFs as supported by a mean and SD overall tally of 3.78 and 1.18 respectively. These findings display evenness with a research that was carried out by Mutua Daniela et al (2020) who recommended Kenyan corporate settings entrenched in logistics should implement environmentally sound practices in all phases of their operations and the larger supply chain.

Economically, in search of whether FBMFs practice sustainable pacts, the results indicate that FBMFs adherence to ethical sourcing, application of lean inventory models and use of cutting-edge technology were practiced to a large degree as evidenced by their mean and deviations from the standard of (Mean=3.87, Std. Dev. =1.31), (Mean=3.57, Std. Dev. =1.09) and (Mean=3.76, Std. Dev. =1.13) respectively. Use of reverse logistics as a cost saving strategy (Mean=43.13, Std. Dev. =1.11) and adherence with tax stipulated laws and guidelines (Mean=3.02 Std. Dev. =1.11) were being practiced by FBMFs to a moderate extent. The overall outcome (Mean=3.47 Std. Dev. =1.15) amounts to a moderate degree of economical sustainability pacts adoption into their supply chains.

Socially, the hallmarks of FBMFs training their employees to handle customers professionally showcased a mean of 3.73, SD of 1.41, FBMFs' value for the well-being and safety of their employees gathering a mean of 4.21, SD of 1.01 as employee training on road safety measures indicated a mean of 3.93, SD of 1.33 having been embraced to a large extent. Adherence of FBMFs within Nairobi County to the set guidelines and regulations by labor laws is indicated by a mean of 3.07, SD of 1.08

which is a moderate degree match with the applied scale in this study as a fairly consistent mode of FBMFs' compensating their injured workers received a mean of 3.81, SD of 1.27 suggesting clearly that the pacts were put in place to a large extent. The overall tally (Mean=3.75, SD= 1.22) exemplifies and forms a clear reflection that aspects that revolve around socially sustainable logistics management pacts were embraced by FBMFs within Nairobi County, Kenya to a large degree.

4.5 Relationship between sustainable logistics management practices and Cost

Scores acquired in line with cost as an aspect of firm competitive advantage, and in search of what FBMFs should engage to achieve competitive cost structure as they embed SLMPs into their operations were subjected to multiple regressions. Quality, speed and flexibility were held constant and the regression-based outputs are as set out in table 4.3 below;

Table 4.3 Regression on Cost

Model	***Unstandardized Coefficients***		***Standardized Coefficients***	***t***	***Sig.***
	B	*Std. Error*	*Beta*		
(Constant)	0.827	0.297		2.785	0.007
Sustainable Environmental Practices	0.396	0.078	0.472	5.077	0.011
Sustainable Economic Practices	0.128	0.085	0.289	1.506	0.037
Sustainable Social Practices	0.247	0.062	0.354	3.984	0.018

a. Dependent Variable: Cost
b. Predictors: Sustainable Social Practices, Sustainable Environmental Practices, Sustainable Economic Practices

$$Y=0.827+0.396X_2+0.128X_2+0.247X_3$$

The study identified that there exists a statistically significant and positive correlation between sustainable environmental practices (t at 5.077, p-value at 0.011), sustainable economic practices (t at 1.506, p-value at 0.037), sustainable social practices (t at 3.984, p-value at 0.018) and cost as a competitive advantage parameter registered by

FBMFs within Nairobi County. The results based on predictors were all in line with the statistically established threshold for results to satisfy the required criteria ($t \geq 1.96$, $p \leq 0.05$) in order to be viewed as significant. Nevertheless, 0.827, as a constant parameter, explains the fact that in a case where all the predictors are modeled on a function that equates them to zero, CA among FBMFs will still be felt at 0.827 units.

Borrowing from the above table, $\beta_1 = 0.396$ denotes that a unit increase in sustainable environmental practices translates into cost reduction in the operational performance of FBMFs by 0.396 units. $\beta_2 = 0.128$ signifies the fact that a unit upsurge in sustainable economic pacts lead to cost minimization by 0.128 units in FBMFs as $\beta_3 = 0.0.247$ indicates that a part increase in sustainable social practices lowers the cost element in FBMFs by 0.247 magnitude.

Table 4.4 Cost Model Summary

R	***R Square***	***Adjusted R Square***	***Std. Error of the Estimate***
.745a	0.555	0.534	0.23411

a. Dependent Variable: Cost
b. Predictors: Sustainable Social Practices, Sustainable Environmental Practices, Sustainable Economic Practices

Findings in table 4.7 indicate results of R Square as 0.555, an indicator inferring that the variables engulfed in SLMPs warrant up to 55.5% of the existing variations manifested in the cost parameter of FBMFs' competitive advantage. This means that the residual effect on variability amounts to the percentage difference that stands at 44.5%, a share of the magnitude on competitive advantage that is dictated by unknown variables. Thus, sustainable social, economic and environmental practices are significant in giving explanations on the variations of the cost dimension as a parameter of competitive advantage among Nairobi County FBMFs.

Table 4.5 ANOVA Findings on Cost

	Sum of Squares	***Df***	***Mean Square***	***F***	***Sig.***
Regression	4.568	3	1.523	19.779	.000b
Residual	3.672	48	0.077		
Total	**8.24**	**51**			

a. Dependent Variable: Cost
b. Predictors: Sustainable Social Practices, Sustainable Environmental Practices, Sustainable Economic Practices

The above ANOVA findings reflect a model that is statistically significant at 0.000 p-value manifested within the acceptable threshold of p<=0.05 and the estimated F value on statistics ($F_{3, 67}$=19.779) found to be greater than 1.523 as deduced from the table. This is in alignment with verity that the independent variables applied in this research form satisfactory projectors on cost as a competitive advantage parameter in FBMFs operational activities.

4.6 Impact of sustainable logistics management practices on Quality

Objective two of this study was centered on unearthing the results that surround the interaction between SLMPs and CA among FBMFs within Nairobi County in Kenya. Regression-based analysis was carried out as cost; speed and flexibility were at ceteris paribus. Regression-based outputs along with interpretations emerged as follows.

Table 4.6 Regression Findings on Quality

Model	***Unstandardized Coefficients***		***Standardized Coefficients***	***t***	***Sig.***
	B	***Std. Error***	***Beta***		
(Constant)	0.714	0.198		6.606	0.010
Sustainable Environmental Practices	0.419	0.083	0.399	5.048	0.001
Sustainable Economic Practices	0.223	0.092	0.297	2.424	0.029
Sustainable Social Practices	0.371	0.087	0.363	4.264	0.023

a. Dependent Variable: Quality
b. Predictors: Sustainable Social Practices, Sustainable Environmental Practices, Sustainable Economic Practices

$$Y=0.714+0.419X_2+0.223X_2+0.371X_3$$

The results display a statistically positive and significant relationship between sustainable environmental practices at t=5.048, p=0.001, sustainable economic practices at t=2.424, p=0.029, sustainable social practices at t=4.264, p=0.023 with quality as a parameter of competitive advantage realized during the operational competitive activities of FBMFs within Nairobi County while embracing SLMPs. Sustainable logistics management practices employed in the constructs of this study yielded values that satisfy the significance requirement standard of t>1.96 with p<0.05, a gesture that the model employed is of good fit to the study.

Nevertheless, the invariable outcome 0.714 implies that in a case where all other variables are equated to zero, an impact of 0.714 units in the operational competitive structure of FBMFs will still be registered in line with quality as a parameter of competitive advantage. β_1=0.419 signifies a unit increase in sustainable environmental practices creates impact of 0.419 units on quality as a measure of competitive performance in FBMFs. β_2=0.223 and β_3=0.371 imply that if FBMFs within Nairobi County invest in a unit upsurge in sustainable economic practices and sustainable social practices, 0.223 and 0.371 units of quality will be recorded in the competitive structure respectively.

Table 4.7 Quality Model Summary

R	***R Square***	***Adjusted R Square***	***Std. Error of the Estimate***
.812[a]	0.659	0.597	0.34152

a. Dependent Variable: Cost
b. Predictors: Sustainable Social Practices, Sustainable Environmental Practices, Sustainable Economic Practices

Table 4.7 sets forth results of R^2 as 0.659 inferring that 65.9% change in the competitive advantage parameter of quality can be accounted for by variations in the

independent variables. Variability in quality dimension among FBMFs can still be explained by other parameters which are represented by 34.1% as indicated in the model.

Table 4.8 ANOVA Findings on Quality

	Sum of Squares	*Df*	*Mean Square*	*F*	*Sig.*
Regression	4.816	3	1.605	19.337	.001b
Residual	3.961	48	0.083		
Total	8.78	51			

a. Dependent Variable: Quality
b. Predictors: Sustainable Social Practices, Sustainable Environmental Practices, Sustainable Economic Practices

Table 4.8 displays analysis done on variability of quality as a parameter to determine the suitability of the model. Results show a p-value of 0.001<0.05 as F-calculated is 19.337 noted to be greater than 1.523 as the F-statistic which means that logistics practices of sustainability among FBMFs form suitable projectors of quality as a parameter of competitive advantage.

4.7 Influence of sustainable logistics management practices on Speed

The study intended to examine the weight registered on speed as a hallmark of competition after FBMFs within Nairobi County configure their logistical operations of management in line with sustainability. The competitive yields of speed regressed in line with the implementation of SLMPs by FBMFs are as tabulated below;

Table 4.9 Regression Findings on Speed

Model	*Unstandardized Coefficients*		*Standardized Coefficients*	*t*	*Sig.*
	B	*Std. Error*	*Beta*		
(Constant)	0.778	0.223		3.489	0.011
Sustainable Environmental Practices	0.381	0.161	0.501	2.366	0.021
Sustainable Economic Practices	0.211	0.079	0.291	2.671	0.029
Sustainable Social Practices	0.276	0.158	0.367	1.746	0.001

a. Dependent Variable: Speed
b. Predictors: Sustainable Social Practices, Sustainable Environmental Practices, Sustainable Economic Practices

$$Y=0.778+0.381X_2+0.211X_2+0.276X_3$$

Tabulated results above show that there exists a statistically significant and positive correlation between sustainable environmental practices (t at 2.366, p-value at 0.021) and sustainable economic practices (t at 2.671, p-value at 0.029) with speed. Sustainable social practices (t at 1.746<1.96, p-value at 0.001<0.05) are seen to exhibit a positive but statistically insignificant association with speed at 95% significance level. The outcome further shows that β_1 =0.381 which signifies a magnitude of 0.381 units that will be registered by FBMFs on speed as a measure of competitive performance after firms embrace a unit increase in sustainable environmental practices. β_2=0.211 explains that a unit upsurge in sustainable economic practices exerts a positive variation in speed performance by 0.211 units in FBMFs as β_3=0.276 indicates a unit upsurge in sustainable social practices creates a positive variation in speed by 0.247 units.

Table 4.10 Speed Model Summary

R	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
.795[a]	0.576	0.387	0.34317

a. Dependent Variable: Speed
b. Predictors: Sustainable Social Practices, Sustainable Environmental Practices, Sustainable Economic Practices

Findings in table 4.10 indicate R^2=0.576 an explainer that the variables manifested in SLMPs explain up to 57.6% of the existing variations exhibited in speed as a parameter of competitive advantage in FBMFs. This further shows that the rest, 42.4%, represents the percentage share of other unexplored factors that dictate variability in speed.

Table 4.11 ANOVA Findings on Speed

	Sum of Squares	***Df***	***Mean Square***	***F***	***Sig.***
Regression	4.757	3	1.586	21.432	.016b
Residual	3.534	48	0.074		
Total	**8.29**	**51**			

a. Dependent Variable: Quality
b. Predictors: Sustainable Social Practices, Sustainable Environmental Practices, Sustainable Economic Practices

The suitability of this model is as shown in table 4.11 above. Results show socially, economically and environmentally logistical practices to be suitable projectors of speed as a facet of firm competitiveness. The p-value ($p=0.016<0.05$) acquired is seen to be within the statistical threshold standard of a good fit model and the calculated F value on statistics is 21.432.

4.8 Effect of sustainable logistics management practices on Flexibility

In search of whether SLMPs correlate with flexibility in the competitive set up of FBMFs within Nairobi County in Kenya, multiple regression analysis was carried out on the entire facets of firm competitiveness as cost; speed and quality states were held invariable. Regression-based outputs along with interpretations emerged as follows.

Table 4.12 Regression Findings on Flexibility

Model	***Unstandardized Coefficients***		***Standardized Coefficients***	***t***	***Sig.***
	B	*Std. Error*	*Beta*		
(Constant)	0.783	0.341		2.296	0.013
Sustainable Environmental Practices	0.409	0.153	0.533	2.673	0.001
Sustainable Economic Practices	0.235	0.161	0.273	1.460	0.038
Sustainable Social Practices	0.313	0.097	0.293	3.227	0.035

a. Dependent Variable: Flexibility
b. Predictors: Sustainable Social Practices, Sustainable Environmental Practices, Sustainable Economic Practices

$$Y=0.783+0.409X_2+0.235X_2+0.313X_3$$

The study determined there being a statistically significant and positive relationship between sustainable environmental practices (t at 2.673>1.96, p-value at 0.001<0.05) and sustainable social practices (t at 3.227>1.96, p-value at 0.035<0.05) with flexibility at 95% confidence leveled model. Sustainable economic practices (t at 1.46<1.96, p-value at 0.038<0.05) are seen to exhibit a positive but statistically insignificant association with flexibility. The outcome further shows that β_1 =0.409 which signifies a magnitude of 0.409 units that will be registered by FBMFs on flexibility as a parameter of competitive performance after firms embrace a unit increase in sustainable environmental practices. β_2=0.235 explains the fact that an upsurge by one unit in sustainable economic practices will cause an upsurge in flexibility multiplier by 0.235 units within FBMFs as β_3=0.313 indicates an upsurge by one unit in sustainable social practices will translate to a positive variation of 0.247 units in flexibility.

Table 4.13 Flexibility Model Summary

R	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
.696a	0.484	0.478	0.41381

a. Dependent Variable: Flexibility
b. Predictors: Sustainable Social Practices, Sustainable Environmental Practices, Sustainable Economic Practices

Table 4.13 displays R Square as 0.484, an indicator inferring that the predictors applied in this study explain up to 48.4% of the existing variations detected in flexibility as a facet of FBMFs' competitive advantage. Summarily, it is therefore prudent in connection with the above tabulated results that 51.6% represents a share of the magnitude of unexplored factors that may be causing variability in flexibility.

Table 4.14 ANOVA Findings on Flexibility

	Sum of Squares	*Df*	*Mean Square*	*F*	*Sig.*
Regression	3.961	3	1.320	15.904	.001b
Residual	4.007	48	0.083		
Total	**7.968**	**51**			

a. Dependent Variable: Flexibility
b. Predictors: Sustainable Social Practices, Sustainable Environmental Practices, Sustainable Economic Practices

The above derivations as itemized in table 4.14 espouse results of a relevant model. The model is statistically significant at 0.001 p-value which is within the acceptable threshold of p<=0.05 and the F-calculated value as 15.905. This is in alignment with verity that the independent variables applied in this research form satisfactory projectors on flexibility as a competitive advantage parameter in FBMFs competitive logistics activities.

4.9 Discussions on Study Findings

The study was steered by two aspirations; to unearth the degree to which FBMFs embed SLMPs into their logistical operations and to establish the association between

SLMPs and CA among FBMFs in Nairobi County, Kenya. The descriptive statistics results on the SLMPs adoption by FBMFs reveal majority of the sustainable metrics of logistics management being practiced by FBMFs to a large extent as inferential statistics showed a correlation between SLMPs and the metrics of competitive advantage in FBMFs.

Environmentally, sustainability outcomes indicate the use of reusable eco-friendly parts and materials, renewable energy sources and waste reduction tools registering the highest scores as compared to green-based employee trainings and reverse logistics services. Key persons in academia typified by Amit Kumar Gupta & Narain Gupta (2020) unravel that salient reasons anchored on why much emphasis on environment is because of the obligatory government compliances, heavily imposed environmental-related penalties, improved cognizance among SC interest components for instance customers, sustainable development conscious suppliers and the brand label equity as “green company” as opposed to this study which pegged its reasons on the constructs of competitive advantage.

Synoptically, practices linked to environmental concerns seemed more pronounced as compared to socially and economically-related spectrums amassing overall descriptive scores of 3.78, 3.75 and 3.47 as their mean respectively which shows a very narrow gap of implementation among the metrics. These findings display evenness with a research that was carried out by Mutua Daniela et al (2020) who recommended Kenyan corporate settings entrenched in logistics to implement environmentally sound pacts in all phases of their activities and the considerably larger supply chain.

The above-stated results are consistent with the yields of an empirical study done by C.K. Udokporo et al (2020) on impact of lean, agile and green SC on entity competitiveness opining that sustainable supply chain SC is a conviction simultaneously configured to blend environmentally, economically, and socially associated strategic pillars of logistics operations of a SC to positively translate impact on firm competitiveness. They go ahead by affirming that the Triple Bottom Line model forms an alloy of metrics surrounding sustainability and that firms have a call to examine not just their self affairs, but also other sister operations across the supply chains, factoring in all the three pillars of sustainability.

Economically, the study found that most of the FBMFs dwell a lot in ethical sourcing so as to avoid unethical sourcing-related penalties, apply cutting-edge current technology to enhance efficiency in their undertakings and utilize lean inventory models to minimize on costs to a large extent. In addition, results also indicated that FBMFs embrace reverse logistics as a cost saving strategy and comply with tax stipulated laws to a moderate degree.

Socially, the value of worker well-being came out as the prominent priority of FBMFs as a tool of witnessing competitive edge as training employees on road safety regulations and compliance came second on their weighted checklist. Results also prove that FBMFs fairly compensate their injured workers consistently and train them to handle clients professionally to a large magnitude as adherence to set guidelines and regulations are seen to be implemented only to a moderate rate. Study findings are seen to contradict the abstract commentary and test findings on one of the hypotheses of a study done by Kannan Govindan et al (2020) which benchmarked the association of sustainability metrics on entity performance projecting that social SC practices are more proportionately associated with firm performance in a developed

economy and to a very small extent in a setting like of this study, which is in a developing economy.

Based on the constructs of this study on competitive advantage, the regression findings derived from analysis indicated the impact loads after FBMFs in Nairobi, Kenya factored SLMPs implementation into their SC as 55.5% on cost, 65.9% on quality, 57.6% on speed and 48.4% on flexibility. The interpretations align with Chapman et al. (2003, p. 645) who argued that by expanding knowledge sharing platforms with logistics providers in the SC, the realization of pronounced efficiency muscle, heightened satisfaction of clients, and modern strategic planning can translate into more adaptation to market changes, agility, swift and agile SC management processes accompanied with expeditious capabilities of innovation.

In a nutshell, the ranking of the impact subjected by SLMPs confirm that quality is the highly impacted facet followed by cost as speed and flexibility dimensions occupied the third and fourth positions. This explains the reason why firms, not only in FBMFs industry, will always choose investing heavily in areas that improve on quality and cost reduction as competitive weapons in this business era over any other dimensions. Therefore, developments of this study concurred with the findings of Logmore (2020) who avows that providing quality service that is excellent is what brings the difference in corporate competition among entrants leading to firm realization of customer loyalty.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section presents a synoptic view of key results in connection with the research objectives, derived inferences and research recommendations made from the after-effect of this study.

5.2 Summary of Findings

The section gives a synoptic view on the findings obtained from this study. The study at hand aspired to establish the effect exerted by SLMPs on overall and individual facts of competitive advantages of FBMFs within Nairobi County.

The findings of the study show that the firm structure adopted by FBMFs appreciates the intake of more middle level managers than the lower level. There was a fair distribution in terms of returned responses from departments with majority of them coming from the operations management area of functionality. Cumulatively, eighty-three percent of FBMFs was noted and found to be the resultant representative magnitude of firms with operational life exceeding five years in the FBMFs, an indicator enough to serve as an affirmation of a measurable age for the firms to form a good podium for the study. Summarily**, c**onsidering the descriptive statistics results obtained and pertinent to the first grail, SLMPs adoption by FBMFs, it is apparent that most of the sustainable spectrums of logistics management are being practiced by FBMFs to a large extent.

Environmentally-related constructs revolving around the intake of reusable eco-friendly components and parts, energy sources that are renewable and lean waste management models indicated higher marks as opposed to green-related worker

coaching and RL services. Summarily, environmental pillar seemed more exceptional as collated to socially and economically-associated aspects.

Economically, the study portrayed most FBMFs dwelling majorly in ethical procurement so as to fend off from penalties associated with unethical procurement-related activities, leveraging on the current technological advancements to witness efficiency in operations and implementing lean stock management instruments to minimize on unnecessary costs.

Socially, outcomes conspicuously indicate that worker well-being as a crucial tenet among FBMFs was applied as a tool of achieving competitiveness as employees training on roadway safety guidelines and adherence emerged second as per the loads outcomes. Fair compensation to injured employees and professional client-handling trainings skills were embraced to a large magnitude as compliance to stipulated measures aligned with the established scale of this study moderately.

The prototype that was applied to model the hallmarks of FBMFs' competitive advantage indicated outcomes which mapped reflections of stronger association between implementation of SLMPs with quality, speed and cost to a large extent in that arrangement respectively. Individually, the interconnection between SLMPs and cost was positive as the used predictors were statistically relevant satisfying the set statistical criterion of a viable model having been applied. The results yielded positive coefficients to form a transformative equation which indicated a strong constant. Quality, as a dimension of FBMFs' competitive edge is also seen to record a positive and significant influential association with SLMPs as exhibited by the qualifying outcomes of all the individual predictors indicating values beyond the established minimum.

The findings indicate the measures on loads attached to cost as fifty-five point five percent, quality as sixty-five point nine percent, speed as fifty-seven point six percent and flexibility as forty-eight point four percent after sustainability pacts have been incorporated into the logistical operations of FBMFs' in Nairobi. Sustainable social practices results exhibited a positive but statistically insignificant connectivity with speed as sustainable economic practices exhibited a positive but statistically insignificant relationship with flexibility.

5.3 Conclusion

In line with the seeker's aim, it can be concluded that the dimensions of competitive advantage for FBMFs are positively impacted by SLMPs as displayed by a positive mark in both significant and insignificant correlation outcomes. This is also a reliable indicator that sustainable environmentally, socially and economically embraced practices are significant in explaining the changes in the majority of the dimensions surrounding competitive advantage of the Nairobi County FBMFs.

Conclusively, sustainable social practices cause a positive but statistically insignificant impact on speed as sustainable economic practices exhibit a positive but statistically insignificant impact on flexibility in the operational endeavors of FBMFS within Nairobi County in Kenya. Thus, sustainable economic, social and environmental practices are significant in explaining the changes in the competitive advantage of the companies' manufacturing food and beverage in Nairobi.

The second objective was realized with regards to study findings that acknowledged there being an association between sustainable logistics management practices and competitive advantage among FBMFs operating within the confines of Nairobi

County. This portrays a very strong gesture that indirectly makes a call on FBMFs to embrace SLMPs on a pronounced scale.

Therefore, as sustainable practices in logistics conspicuously stand out to be the key drivers in the industry, it prudent to conclude that the unexplored variables have potential competitive advantage impact on FBMFs within Nairobi. Nonetheless, it is vital to seal the arguments of this study with a notation that there exists unidentified factors beyond the scope of this study that do influence competitive advantage apart from SLMPs as firms operating in such related industry ought to centre their operational blueprints on the aspects of embracing sustainability so as to realize the competitive impact in gaining superior quality conformance, reduced operational cost, operational agility and expedited responses in this contemporary era of supply.

5.4 Study Recommendations

In deep connection with results of this study, the analyzes made give a reflection for the need that beverage manufacturing companies within Nairobi County should embrace a comprehensive implementation of environmentally friendly packaging solutions to permit utility of biodegradable materials other than non-biodegradable alternatives. Additionally, based on observable events while collecting data, it is recommended that firms in FBMFs should strategically position waste collection receptacles in key locations to facilitate effective waste management practices. These measures will not only minimize the ecological impact of their operations but will also promote responsible waste management and scale down the manifestation of negative operational externalities within Nairobi County.

In search of superior sustainability and green labels of logistical management, FBMFs should embrace a holistic approach pegged on the pillars of sustainability. The

research findings also emphasize the importance of tax compliance and adherence to the legal frameworks by beverage manufacturing companies in Nairobi County. It is strongly recommended that these firms should consistently ensure compliance with tax regulations and operate within the established legal boundaries of the country. By doing so, the firms can avoid potential financial burdens associated with non-compliance and mitigate the risk of costly tax penalties. Furthermore, operating within the legal framework will enable the FBMFs to optimize on their profitability models and effectively maximize on value generated from their operations. Embracing tax compliance and adhering to legal requirements fosters favorable business environment, promoting financial stability and sustainable growth for the beverage manufacturing firms in Nairobi County.

Finally, the study strongly suggests that beverage manufacturing companies in Nairobi County should establish a safe working environment for their employees and ensure fair remuneration that matches the work performed. This approach effectively reduces the occurrence of compensation claims resulting from workplace injuries or lawsuits arising from inadequate compensation. By prioritizing employee safety and offering equitable compensation, the firms can create positive work atmosphere that enhances employee well-being, job gratification, and overall performance. This, in turn, mitigates the potential financial and legal liabilities associated with workplace accidents or discontentment among the workforce. It is crucial for the beverage manufacturing firms to prioritize the welfare and fair compensation of their employees to maintain a harmonious and legally compliant work environment.

5.5 Limitations of the Study

The study experienced an array of limitations as acknowledged below. To begin with, the scope of the research was restricted to food and beverage manufacturing firms

operating exclusively within the jurisdiction of the Nairobi county government. Therefore, the outcomes of this study may not befit generalized platform of application to companies operating in diverse geographical locations or jurisdictions.

This study was constrained by the selection of only one respondent per firm, typically chosen from the human resource management department, operations management, supply chain management, marketing department, or finance department, as they were deemed to possess relevant knowledge about the firm. However, this limited representation may not capture the diverse perspectives and experiences that could exist within other departments or levels of firms hence a likelihood of bias-effect on the yields of the study.

5.6 Suggestions for Further Studies

The study endorses forthcoming studies be centered on strategic employee capabilities and the competitive entity advantages of FBMFs beyond the confines of the county under study. More studies may also be geared towards investigating the association between sustainable logistics management practices and firm competitive performance among FBMFs within or beyond Nairobi County for the purposes of benchmarking research outcomes.

With regards to the research design adopted in this study, scholarly individuals may also carry out investigative aspects on the same research area applying a different research blueprint in order to make comparable inferences and conclusions. Based on a series of yearbooks published mapping sustainability with special treat to Agenda 21, Spangenberg et al (2002) proposed a four-dimensional concept approach to sustainability for researchers to include organizations and their commensurate systems of governance as the fourth area in future.

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APPENDICES

APPENDIX I: RESEARCH QUESTIONNAIRE

Introductory Remarks:

Dear Respondent,

The information required will be treated with utmost confidentiality and commitment.

Please mark the choices in each section, following the provided instructions.

SECTION A: GENERAL INFORMATION

1. Please state the name of your firm ……..

2. Which level do you belong to under management?

   Top [ ]

   Middle [ ]

   Low [ ]

3. In which department do you belong?

   Supply Chain Management [ ] Human Resource Management [ ]

   Operations [ ] Marketing [ ] Finance [ ]

4. For how long has your firm been in operation?

   Less than 5 years [ ]

   5 – 10 years [ ]

   Over 10 years [ ]

4. Does the firm embrace sustainable logistics management practices?

   Yes [ ]

   No [ ]

SECTION B: Extent of Sustainable Logistics Management Practices Adoption

Provided below are the questioned based on the influential areas where majority of firms seem to derive their unmatched competitive advantage. Please specify the degree at which your firm has embraced the subject in line with the provided ratings. The span of the scale ranges from 1 to 5; whereby **1**= Very Small Extent, **2**= Small Extent, **3**= Moderate Extent, **4**= Large Extent, **5**= Very Large Extent.

	SUSTAINABLE LOGISTICS MANAGEMENT PRACTICES	1	2	3	4	5
	Sustainable Environmental Practices					
a	We embrace green-based employee trainings					
b	We purchases reusable and eco-friendly materials & parts					
c	We offer reverse logistics & disposal services					
d	We apply waste reduction mechanisms					
e	We use renewable energy sources					
	Sustainable Economic Practices					
a	We do ethical outsourcing to avoid penalties					
b	We apply lean inventory techniques to minimize on costs					
c	We embrace reverse logistics as a cost-saving strategy					
d	We apply cutting-edge technology to enhance efficiency					
e	We comply with tax stipulated laws					
	Sustainable Social Practices					
a	We training employees to handle customers professionally					
b	We value the well-being & safety of our employees					
c	We train employees on road safety regulations and compliance					
d	We adhere to guidelines and regulations outlined by labor laws					
e	We consistently & fairly compensate injured employees					

SECTION C: COMPETITIVE ADVANTAGE DIMENSIONS

	Cost-Related Questions	1	2	3	4	5
a	Our products quality match market prices					
b	Reduction in operational expenses is felt by the firm					
c	Use of sustainable energy decreases energy-related costs					
d	Proper maintenance of machinery minimizes production expenses					
	Flexibility-Related Questions					
a	Firm embraces newest logistical technologies					
b	Flexible delivery systems are being used					
c	Firm has ability to adapt to changing production processes demands					
d	Firm ability to address varying demanded customer volumes					
	Quality-Related Questions					
a	Leveraged technological advancements to offer exceptional value					
b	Customer satisfaction data show customer contentment quality-wise					
c	Firm uses IT to identify faults and eliminate waste					
d	Consistent employee training programs to expertise in quality					
	Speed-Related Questions					
a	The company ensures timely delivery of products to its customers					
b	Firm responds to customer inquiries and complaints promptly					
c	The company ensures timely payment to its creditors					
d	Firm runs a speedy and efficient communication link with customers.					

End of Questionnaire

THANK YOU

APPENDIX II: FBMFs WITHIN NAIROBI COUNTY

1. Africa spirits	2. Kevian Kenya Limited
3. Agro Chemical and Food	4. Kimani Coffee Experts
5. Alpha Fine Foods	6. Maisha Flour Mills Ltd
7. Aquamist Water	8. Manji Food Industries Ltd
9. Best American Wines	10. Maxam Limited
11. BIDCORO Africa	12. Naisenya Foods
13. Bio Food Products	14. NAS Airport Services
15. Biotel DNA	16. New Italycor Ltd
17. Blend Africa	18. New Kenya Co-operative Creameries
19. Brava Food Industries	20. Norda Industries Limited
21. C & R Food Industries	22. Osho Grain Millers Ltd
23. C Dorman Ltd	24. Ozzbeco
25. Centrofoods Industries	26. Patco Industries Ltd
27. Coca Cola Kenya	28. Peafoods Processing Company
29. Connect Coffee	30. Pembe Flour Mills Ltd
31. East African Breweries Limited	32. Pika Chakula
33. Eldoville Diaries	34. Premier Food Industries Ltd
35. Essen Investments	36. Proctor & Allan (EA) Ltd
37. Farmer's Choice Ltd	38. Propack Kenya
39. Foodsense Technologies	40. Propack Kenya Ltd
41. Genjoy Food Products Ltd	42. R H Devani Ltd
43. Golden Africa Kenya Limited	44. REAL IPM
45. Gonas Best	46. Sameer Agriculture and Livestock
47. Green Garden Deli	48. Sidai Africa
49. Greenforest Foods Ltd	50. Siddham Beverages Limited
51. Honest Water	52. Tea Machinery & Engineering
53. Honey Care Africa	54. The Wrigley Co (East Africa) Ltd
55. Ingredion Holding LLC	56. Top Food (EA) Ltd
57. Isinya Feeds	58. Tri Clover Industries (K) Ltd
59. Jetlak Foods Ltd	60. Tropical Heat
61. Joeliz Bone Meal Ltd	62. Trufoods
63. Kapa Oil Refineries	64. Unifresh Exotics
65. Kenafric Industries Ltd	66. Unilever Kenya Ltd
67. Kenchic Ltd	68. Vetcare Africa
69. Kenya Nut	70. Vine Pack
71. Kenya Sweets	72. Viva Global
73. Kenya Tea Development Agency	74. Weetabix East Africa Ltd
75. Kenya Wine Agencies Limited	76. WOW Beverages
77. Kevian Kenya Limited	

Source: Kenya Association of Manufacturers KAM Data (2023)