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Effect Of Cost Leadership Strategy On Sustainable Performance Of Manufacturing Firms In Kenya As Moderated By Innovation

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Abstract
Manufacturing firms across the world are operating in an agile business environment where innovation is vital and their survival largely depends on the choice of competitive edge strategies. The study's intention was to determine interaction of innovation, cost leadership strategy and sustainability of companies. Explanatory research design was employed. Blue ocean, innovation diffusion and generic framework theories were adopted. Yamane formula was applied in obtaining a sample of 230 from a total of 536 respondents employed in 217 firms. Multi stage sampling was utilized in respondents' selection. Data was collected through questionnaires. Process Macro was used to analyze data. The model summary indicated that cost leadership and innovation explained 67.9% of sustainability. The results exhibited that cost leadership strategy (β = .712, p=.002), innovation (β = -.186, p=.016) were statistically significantly on sustainability. Interaction of cost leadership and innovation on sustainability (β = .225, p=.000) was statistically significant. Conclusions from the results indicated that cost leadership strategy and innovation affects firms' sustainability. Recommendation from the study was that firms should adopt efficient technology. Policy makers in developing countries should capture the real nitty gritty of cost, innovation to make firms sustainable in this era of competitive business environment.
Key words*: Innovation, Cost Leadership Strategy, Sustainability, Manufacturing Companies*

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I. Introduction

Manufacturing businesses operate in highly dynamic and uncharted environments where competition is inevitable (Knoke, 2018). Therefore, businesses that want to stay ahead of their rivals should adopt effective strategies. It has been noticed that business strategies directly influence continuity and expansion of companies. Performance is essentially the ability of companies to achieve set targets with scarce resources in a reliable and well organized way according to Ahmad, Hadyait and Rashid (2019). Assets of businesses must be used skillfully and effectively (Büyüközkan & Karabulut, 2018). As a result, businesses are increasingly assessed based on the environmental impacts they have on their stakeholders as well as their essential economic and social performance outcomes.

According to McDavid, Huse, and Hawthorn (2018), measures for measuring sustainability that have been created to take many factors into account include triple bottom line approach, economic value additions, and balance score card. The triple bottom line (TBL) is a methodology for evaluating an organization's sustainable performance (Gonzales and Kopp 2017). Performance measurement from perspective of triple bottom line include: natural capital, profit, and people. Learning about sustainable development starts with investigating its broad concepts economic aspect, ecological aspect, and social aspect (Abidin et al., 2013).

Furthermore, Alhaddi (2015), emphasized that triple bottom lines can be used inter changeably with sustainability. Additionally, economic aspect, ecological aspect, and social aspect create structure to assess sustainability which is linked to performance of business organizations (Goel, 2010). The economic, environmental as well as social value of all stakeholders of the company was first discussed under TBL. The build is more balanced and consistent because TBL gives all stakeholders equal opportunity in terms of balanced value (Jayashree et al., 2021).

According to theory of 3Ps that is People, Planet, and Profit as a three legged stool explaining sustainable performance suggests that businesses can accomplish their set targets of environment, economics and social value (Danciu, 2013). The TBL has led to sustainability management that equally considers social, economic, and environmental factors. By effectively leveraging their capabilities and available resources to gain competitive advantages, organizations can be sustainable in uncertain business environment.

Even if firms are in the business of making profits, such earnings are beneficial to all stakeholders at large within a framework of sustainability. In other words, significant cost reductions, high levels of

profitability, first-mover advantage, and significant competitive advantages are the main forces behind economic sustainability in business enterprises (Hernández-Daz et al., 2020). Economic performance, then, refers to company tactics that meet customer demands by delivering goods in a timely, effective, and lucrative way in order to preserve or raise people's standard of living (Arsi'c et al., 2020; Mustapa et al., 2018).

Environmental performance demonstrates adherence to laws and rules as well as stewardship of a group of environmentally conscious clients. Additionally, environmental performance within manufacturing industry refers to actions taken to lessen negative environmental effects by using natural resources (Anser et al., 2020). Therefore, environmental preservation works to preserve the natural ecosystem, including human beings and other life-sustaining systems (Bukit et al, 2018). Furthermore, to retain industrial competition and sustainability, manufacturing companies must develop ecologically and employ environmentally friendly practices.

Social aspect is one of the essential pillars of sustainability, although it has attracted a lot of attention like economic and environment components. Sustainability in developing, emerging, and industrialized nations depends on the interdependence of the environmental, economic, and social components (Iranmanesh et al., 2019 & Awan, 2018). In today's business environment achievements of financial and environment targets is not enough due to the customers' increased demand for enterprises to demonstrate their adherence to social responsibility.

Sustainability, according to Renukappa et al. (2012), goes beyond just the economic and environmental aspects; it also encompasses the social aspect of all stakeholders. This is explained in terms of proper housing, well connected transportation system, good health and safety system, and favorable terms of service. Organization's social value reflected in bottom lines refer to success in terms of social or people issues as they relate to its workforce, customers, and communities. This is also manifested in company's treatment of workers, community as well as areas in which it conducts business in a fair, ethical, and advantageous manner (Smith & Sharicz, 2013; Jones et al., 2014).

According to Renukappa et al. (2012), the social bit of performance demonstrates the value of stakeholder, particularly employees and by extension their neighborhood. The Social aspect in most cases is underappreciated component of sustainability when compared with economic and environmental aspects, despite being much more challenging to assess than economic growth or environmental effects. In the recent change of customers demand towards sustainability, particularly social value has changed the market equation, requiring companies to reconsider how they approach their products, technologies, strategies, customer relationship and production processes (Mansouri, 2016). Furthermore, maintaining and safeguarding interests of all stakeholders is the main goal of social responsibility. Therefore, social performance is related to how business strategies affect stockholders, employees, communities, and fulfillment of their interest (Mustapa et al., 2018, Zainol et al., 2018 and Mansouri & Gallear, 2016).

But few studies have looked at how manufacturing firms prepares for and puts long-term plans into action to address issues with sustainable performance (Prieto-Sandoval et al., 2021). Similar to that, more research is still needed, primarily empirical investigations. In recent years, both developed and developing nations have gradually increased their focus on researching sustainability in commercial organizations (Jabbour et al., 2019). However, more research on this measure is required in various economic sectors in emerging nations. According to Mathews, Maruyama, Sakurai, and Sok (2018), determining a company's effectiveness ensures that strategic actions are aligned with set targets well elaborated in company's strategic plan.

According to Dutse and Aliyu (2018), cost leadership refers to a process where organizations produce goods and services at the lowest cost possible in a competitive business environment. Although it might not be easy to implement cost leadership since management must constantly look for ways to cut costs while maintaining competitiveness. Alonso-Almeida, Bremser, and Llach (2015) claim that spending is a marketing tactic that, despite being very effective in winning the customers and eventually market share sometimes is not possible to implement. According to Chen and Liu (2019), a firm that produce inferior goods and services that are at low costs will not succeed in a competitive business environment. Instead the company must produce quality products for certain clientele at a lower/affordable price than other businesses producing a comparable product.

According to Paauwe and Boon (2018), the main purpose of cost- leadership typically dictates that an organization must be the least expensive among those businesses vying to meet the same customers' needs. The bulk of organizations have made strategic mistakes by failing to see this. When there are multiple cost leaders vying for the same position, there is typically fierce competition among them because each market share point is valued highly. Companies utilizing the cost-leadership strategy have made significant investments in real estates in addition to their current businesses.

.As a result, a company's adoption of a cost leadership competitive approach leads to the greatest benefits and maintains competitiveness According to Lee et al. (2016), an innovation strategy that is ingrained in the organization's operations improves both organizational performance and competitive advantage. By

establishing innovation targets, the majority of processing companies worldwide have maintained competitiveness and equally high performance levels.

Tuan et al. (2016) posits that innovation is the term used to describe changes to products, processes, and organizations that don't always result from novel scientific discoveries but instead develop from the fusion of pre-existing technology and take place in novel contexts. Innovation diffusion is the deliberate or unintentional dissemination of novel concepts, methods, or products that are thought to be exceptional (Ibingira, Muturi, & Rurangwa, 2017). The organization's ability to use innovations for competitiveness depends on timing and speed of adoption (Dearing & Cox, 2018).

Innovation has been embraced by various organizations as a core component of achieving competitiveness; this was in support to Soliman's (2013) study investigating the effect of innovation in driving competitiveness of Australian companies. A study by Muhammad, Shaukat, Syed and Vijay (2014) analyzing product innovation and buyer-supplier relationships in businesses in Pakistan concluded that a positive association exists between strategic buyer-supplier relationships and product innovation, leading to overall better market performance. Further, research by Rosli and Sidek (2013) on link between innovation and viability of small and medium enterprises (SME), in the Malaysian industrial sector showed that the Malaysian SMEs did not attain competitive advantage because of lacking innovation. They came to the summation that innovation, the driver of competitiveness, is needed to be implemented.

Regionally, Reguia (2014) conducted research in Algeria investigating the link between product innovation and competitiveness of enterprises. Results from the study revealed a link between a company's longevity and its capacity to sustain product competitiveness as a result of innovation. In Kenya's context, a 2015 study by Arunda determined the impact of innovation on business competitiveness with a focus on the M-pesa invention by the Safaricom Corporation. This study came to the conclusion that Safaricom Company's competitive advantage was positively influenced by M-pesa innovation.

Kenya's manufacturing companies are among the most advanced in East Africa, while being small and relatively varied. The nation's thriving manufacturing sector provides a wide range of goods that adhere to top-notch standards. Despite difficulties in the operating environment since the late 1990s, the industry has continued to develop stronger and stronger (KAM, 2018). Over 73% of the sector is made up of the food, clothing, and textile subsectors, which represents the whole industry. Over 73% of the overall output turnover in the agro-processing sector is made up of food, drink, and tobacco. About 87% of Kenya's registered manufacturing companies are now operating, and most of them are locally owned (Agbiogwu, Ihendinihu & Okafor, 2016).

The production of food is a significant component of Kenya's economy (Muteshi & Awino, 2018). Kenya's food manufacturing industry provides jobs, adds value, and serves as a market for the nation's principal agricultural goods. Okumua and Faith (2018) claim that one of Kenya's manufacturing industries' top goals for industrial progress is the food processing sector. This priority has been determined based on how it advances manufacturing, particularly in terms of job creation, value addition, and foreign exchange savings. Additionally, the industry has a close relationship with other sectors of the Kenyan economy, which supports the sector's development rationale (KNBS, 2017).

Statement of the Problem

Recently, a number of Kenyan industrial businesses reported declining sustainable performance. For instance, in recent years, East African Breweries Limited (EABL) has experienced a 7% and 15% decrease in market share, as well as poor earnings in 2017 and 2016, paralleled to 2015 (Baraza, 2017). Historically, the progression of manufacturing has been slow compared to GDP, which saw a 5.6% growth in 2015. Consequently, the input of manufacturing industry to GDP has waned over time. According to Phillips (2009), this suggests that Kenya is suffering premature deindustrialization circumstances when its manufacturing sector is still developing. Comparatively speaking, it appears that Kenya's industrialization peaked significantly later than other regions of the world.

Lack of low cost strategy as one of competitive strategies, according to Okello (2018), may cause a manufacturing company in Kenya to fail and is a barrier to productivity growth. According to a KNBS (2017) analysis, 3 out of 5 manufacturing enterprises fail in their initial months of being in operation, whereas of those that do not fail in the initial months of operation, 80% fail within five years. Numerous academics have performed studies on the effectiveness of Kenyan manufacturing companies. By using a descriptive design, Kariithi and Kihara (2017), for instance, evaluated the factors influencing performance of Kenyan manufacturing firms, concluding that innovative infrastructure increased manufacturing enterprise's market share and that participating in online services would strengthen their competitive edge. The study exhibits a conceptual gap.

Product, service and process innovations are said to be the three main dimensions of innovation as per Kaya (2015). These aspects significantly impact performance and competitiveness in manufacturing firms.

However, this has not received much attention. Oira and Kibati (2016), for instance, investigated how innovation impacts commercial banks' performance in Nakuru central business district. The findings established that innovation favorably impacts performance. For further comparison, the researchers advised that additional studies concentrate on locations and industries that were not included in their study.

In a similar line, Njeri (2017) looked into the link between innovation strategies and Kenya's telecommunications sector, focusing on Safaricom Plc. performance. The results established that a link exists between process innovation and financial viability that was both favorable and significant. Muthoni (2017) focused on PZ Cussons Ltd. to determine whether innovation had an impact on competitiveness, focusing on Fast Moving Consumer Goods (FMCGs). The results revealed that process innovation significantly influenced competitiveness compared to product innovation.

Nyuur et al. (2018) augur with Jela (2021), positing that majority of manufacturing companies encounter a number of obstacles that limit their capacity to develop novel goods and services, which has a detrimental effect on achieving a better performance standard. Additionally, the COVID-19 epidemic gave industrial companies both new challenges and opportunities. They must innovate and change in order to boost their sustainable company performance and address future challenges because it has simultaneously hampered their ability to sustain and optimize their output levels (Zulkiffli et al., 2022). Therefore, this study sought to fill in the study gap by providing answers to the question, "What is the moderating effect of innovation on the link between cost leadership strategy and sustainability of manufacturing firms in Kenya?"

Theoretical Review

The theory of Blue Ocean Strategy was developed by Kim and Mauborgne in the year 2005. The theory is based on sustainable invent which meets the needs of clients over several generations, where their values are uphold with minimum costs (Kim & Mauborgne, 2009). Blue ocean strategy theory focuses on all inclusive approach geared towards sustainable outcomes, in terms of achieving organizational objectives, through dedicated and motivated workforce (Randall, 2015). Attainment of sustainability means achieving organizational values in terms of triple bottom lines which affect both primary and secondary stakeholders at the same time making the organization a going concern. Sustainability calls for continuous innovation as well as improvement. (Randall, 2015; Berry & Morris, 2000).

Innovation diffusion theory (IDT) was coined by Rogers in the year (Rogers, 1962; 1995) Organizations only adapt a technology when they are confident that a certain technology will add value to their existing state. The general understanding according to Mndzebele (2013) is that organizations need to understand that adoption of innovation provides solutions to inefficient traditional systems and presents new opportunities in the form of efficiency in operations and enhanced productivity. This augurs with Al-Jabri and Sohail (2012) summation that a system which is perceived to provide increased efficiency, economic benefits and enhanced status positively leads to high rate of adoption.

Generic Framework Theory Porter (1980) argues that the strength of a business is its advantage on reducing costs. Companies achieve low costs when products are produced at lower costs compared to competing firms. Porter (1980) further posits that cost leadership refers to a company's ability of leading in cost of production in an industry. As a strategy, cost management contains various procedures in manufacturing goods with certain characteristics, purposed to satisfy the needs of customers with regard to price and quality while producing them at costs lower than rivals' costs. Cost leadership lets companies to produce at low cost and reap more returns compared to competing companies due to low production costs and economies of scale. Porter (2008) surmises that once a company achieves low costs, the company achieves high margins of profit that the company can re-invest either in enhanced facilities, technology and equipment to retain cost leadership.

Conceptual Framework

The study determined the association of cost leadership approach (independent variable) and sustainable performance (dependent variable) of food and beverage firms in the manufacturing sector. Innovation was the moderating variable as Figure 1 shows.

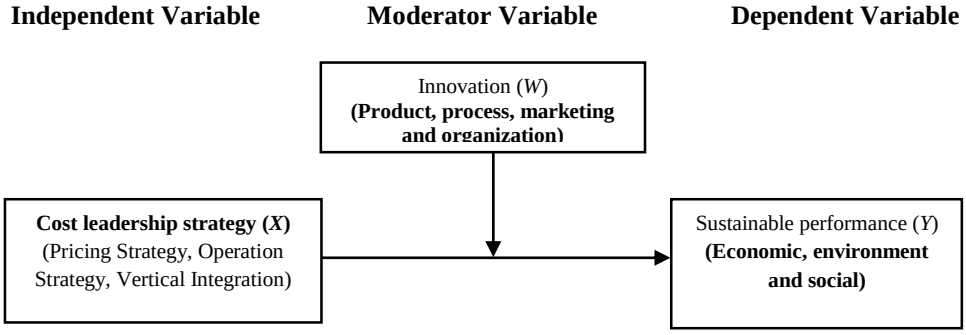

Figure 1: Conceptual Framework

II. Empirical Literature Review

Cost Leadership Strategy and Sustainable Performance

The goal of the cost leadership approach is to produce goods and services with customer-acceptable features for less money than its rivals. This goal can be attained through experience, significant investment in production facilities, cost monitoring through size and quality management programs, and high investment in production facilities (Valipour, Birjandi, & Honarbakhsh, 2012). Utilizing capacity, outsourcing, vertical integration, economies of scale, and logistics efficiency as the cost leadership strategy's driving forces.

According to Fernando, Chang, and Tripathy (2015), cost-cutting measures, such as using new tools and techniques or moving to new production areas, could result in an advantage that can only be maintained for a brief period of time, necessitating the organization to come up with safeguards to make sure that this doesn't happen and they can adapt to new requirements. Additionally, the experience curve's applicability is restricted, particularly in situations where the operating environment is rapidly changing or when new competitors enter the market and introduce items that may ideally replace the existing ones (Ahmed & Pagell, 2014).

Samadi (2018) claims that specific costs decline as more people utilize a certain technology and as experience is gathered over time in producing products or providing services. The knowledge could be applied at a specific company's level or at entire industry's level. The company's price reduction is made possible by the experience curve, which also increases market share and, ultimately, profits. The advantages of the experience curve, nevertheless, are short-lived. In order to increase production capacity, businesses analyze a variety of factors, including how well machines are used, how quickly they run, and how resource allocation could be enhanced without adding unnecessary costs to the process (Jadayil, Khraisat, & Shakoor, 2017).

In their investigation, Kurt and Zehir (2016) explored the connections between cost leadership approaches, implementation of TQM and financial performance of MSMEs in Istanbul and Gebze. The study targeted 600 senior and middle level management and organizations' directors, surveyed as part of the survey. The results demonstrated that cost leadership significantly and positively impacted financial viability. However, the link is intermediated by implementation of total quality management practices.

The cost leadership approach, competitive approach, and MSMEs performance in Himachal Pradesh, India were all evaluated by Kharub, Mor, and Sharma (2018). With 381 respondents as the target group and a 65.1 percent response rate, using a survey design. The findings established no connection between cost leadership approach and performance of surveyed firms, either directly or significantly.

Furthermore, the most substantial impact on business performance was made by low cost leadership strategy. An investigation determining impact of the cost leadership approach on MFIs sustainability in Murang'a County was undertaken by Kahingo and Waithaka (2018). They studied senior managers at the MFIs were the target of a descriptive survey design. Majority of participants concurred that the cost leadership approach had a significant impact on MFIs sustainability. Regression analysis results demonstrated that sustainability of MFIs in Murang'a County is statistically and positively correlated to cost leadership strategy. Additionally, MFIs used technologies such as mobile banking. In addition, they had flexible schedules of loan repayment and offered customers with a wider array of services and products.

Quantitative methodologies were used in Wawaka and Muchelule's (2018) assessment of "the effect of pricing strategies on competitive advantage of selected cement manufacturing enterprises in Kenya." Five cement manufacturing businesses' 553 employees and 5 department heads (safety, manufacturing, finance, commercial, environmental and health managers) were the targets. The results showed that the value-based pricing approach and the competition-based pricing approach considerably and favorably impacted competitiveness of the chosen Kenyan manufacturing enterprises. The research helped Kenyan cement producers by revealing the optimum pricing approach for boosting competitive advantage as well as the challenges encountered and how those tactics affected organizational performance.

In order to determine how premium, penetration, skimming, and economy pricing methods influenced the firms, Nyaga and Muema (2017) looked at how the profitability of Kenyan insurance firms is affected by pricing tactics. A descriptive research design was used, and as of December 31, 2012, there were 45 Kenyan businesses operational. The sample size consisted of 900 employees from the companies. The results showed a substantial and positive correlation between price optimization tactics, penetration pricing, skimming pricing, economy pricing, premium pricing and profitability. Further, penetration, skimming, economy and premium pricing favorably impacted insurance organizations' financial performance. Furthermore, the relationship between the variables and profitability was positively significant and they adequately explained profitability.

According to Li and Li's (2017) research, pricing leadership aims to offer customers a personalized, high-volume product at a price considered most competitive. A company could be expensive for the owner, but this does not always imply that corporate goods will always be expensive. In essence, the company will use the average pricing as an example while relying on the inexpensive management method and reinvesting the extra profits in the company. The majority of businesses seek a tangible competitive edge; to clarify the direction of their strategies, they frequently use the Porter's general approaches.

A study titled "Low prices are just the beginning: Price image in retail management" was done by Hamilton and Chernev in 2013. The study found that customer conduct and ideals are influenced by price image. The study also showed that customers' perceptions of price images affect their perceptions of a store's price stage and the objectivity of its prices. It will also impact customer's choice of store, the size of the basket on each visit, and whether or not the consumer decides to make a purchase at the store right away or decides to put it off to compare prices and deals at other retailers. It is undoubtedly a big pain when new competitors enter the market, least of all e-tailers and discounters, as a terrible charge image is difficult to change. Based on the above arguments, the study prompts hypothesis H_{01}.

H_{01}: There is no significant effect of pricing strategy on sustainability of manufacturing firms.

Al-Ghazzawi and Joudeh (2015), research in Jordan investigated how Jordanian listed manufacturing enterprises' performance was affected by strategic operations. 91 questionnaires were given to the manufacturing enterprises as part of the survey, which produced a response rate of about 65.9%. It was clear that improved performance was attained compared to earlier periods before the use of strategic costing methodologies by JLMC. The outcome of a one-sample t-test showed that JLMC used each strategic costing technique. The findings of multiple regression showed that these strategies greatly contributed to and explained the high percentage of variation in JLMC's performance. Three explanatory variables had a statistically significant and beneficial impact on JLMCs' market, financial, and overall performance (COQ, TC and ABC). The production performance of JLMC was considerably and favorably impacted by every explanatory factor except attribute costing.

Assessing "the impact of operating cost on profitability of manufacturing enterprises listed on the Nairobi stock exchange", Misore (2017) conducted an investigation. The researcher in the study examined the extent to which financial considerations impacted the firms' profitability. At least 50 employees from Kenyan manufacturing companies were solicited, and 44 participants were chosen to participate in the sample. Findings revealed that the participants agreed that automation enabled them to achieve low costs, that outsourcing had been used to reduce compensation, and that the firm maximized profit by cutting operating costs. Based on the above arguments, the study prompts hypothesis H_{02}.

H_{02}: There is no significant effect of operating strategy on sustainability of manufacturing firms.

According to a study investigating the link between vertical integration (VI) and inventory turnover, firm operating performance, including costs and profitability, vertical integration positively impacts the majority of the inventory, which in turn helps to lower the costs of the supporting processes, which in turn boosts an organization's sales (Panayides & Andreou, 2015). In order to provide the most value to the consumer, an effective logistics system that facilitates integration of business activities from purchasing, manufacturing, selling, and logistics along the value chain is crucial. The ability to supply services and goods in the quantities and at the precise times requested by customers directly affects an organization's performance. Customer happiness, delivery speed, dependability, and flexibility could be used to gauge efficiency (Hajiesmaeili, Rahimi, Jaberi, & Hosseini, 2016). Nowadays, the majority of businesses choose to outsource their logistics in order to save costs, leading to increased flexibility, higher service levels, and the ability for businesses to focus on their core competencies. Coca-Cola and East African breweries are a couple of examples of these businesses (Katana & Gichure, 2017).

Isaksen and Dreyer (2016) examined how vertical integration affects performance while emphasizing how to address the issues with VI's empirical investigations. The focus of the research has been on when to integrate and when not to, according to the contingency view. The study's summation was that vertical integration should not be done until it is absolutely necessary; enterprises' efforts to increase profits and strengthen their competitive positions appear to be the main drivers of VI. According to the research findings, RBV is essential to comprehending how VI and VI spread affect performance. Additionally, it is necessary to

create new metrics that take into account VI complexity and give particular attention to competitive and production settings. Based on the above arguments, the study prompts hypothesis H_{03}.

H_{03}: There is no significant effect of vertical integration on sustainability of manufacturing firms.

Moderator Innovation Strategy

Implementing new products or improving current business processes, for instance marketing strategy, corporate culture, workplace organization methods, or external customer relations, constitutes innovation as a strategy. Investigating new technical capabilities is one of innovation's main priorities. Innovation fundamentally contrasts from incremental innovation, whose primary goal is to examine current technical capabilities (Nowacki & Bachnik, 2016). There are various types of innovation strategies, but according to Zakir (2017), the most important ones comprise market, process, organizational and product/service innovations.

The introduction of products and services that are either current or have been revised critically is known as product innovation. These goods have been upgraded in terms of, among other things, parts, specifications, design, and usage (Xie et al., 2019). Innovation in marketing refers to the employment of more effective promotional, price, packaging, design, and positioning strategies for products. The goal of marketing innovation is to create new markets, satisfy customer requirements and expectations, which enhances competitiveness (Ungerman et al., 2018). Utilizing modernized techniques for creating and distributing goods to the market is referred to as process innovation. Process innovation can be done consciously to produce items with higher quality overall, at lower delivery costs, or with stronger quality (Najafi-Tavani et al., 2018).

Foster et al. (2018) argues that firm-specific variations of demand – instead of technical efficiency – are key determinants of firm longevity and favorably impact measured productiveness. While it is anticipated that process innovation impacts technical efficiency, subsequently, product innovation is closely associated with firm-specific fluctuations of demand. Utilizing a sample of firms in France, they demonstrated that process innovation is both statistically and economically inconsequential, but product innovation typically serves as the primary driver of labor productivity.

Akcigit et al. (2018) contend that enterprises have a higher likelihood of engaging in prescribed activities of innovation and product innovation is compelled by demand, however process innovation is compelled by supply, based on sampled businesses in four nations in Europe. Additionally, according to these writers, in France, the UK and Spain, product innovation achieved greater successes and enhanced productivity, while process innovation only contributed to growth. Evidence by Aliasghar et al. (2019) established that productivity is impacted more by product innovation compared to process innovation. In conclusion, the preceding literature in these organizations has recognized the competitive fierceness in the overall tea sector, which prompts the development of creative business strategies to stay competitive. Beyond competition, effective inventive techniques increase high performance (Gesimba et al., 2015).

In determining how innovation impacts SME performance in Malaysia's food processing sector, Aziz & Samad (2016) conducted a study utilizing 284 businesses and a survey methodology to gather data. The study's results revealed that product innovation improved firm performance and that there was a connection between top management and research team confidence. The study also found that managerial literacy has an advantageous effect on organizational decision-making. Despite these drawbacks, the study did have some strengths. For example, it focused on only one innovation rather than the other three, which included process, marketing, and organization innovations. Second, the middle level carder, who is technically in charge of implementing innovations, was neglected in favor of the top management. Finally, the study was conducted in Malaysia, where the businesses have their own infrastructure and potential difficulties.

In order to establish internal factors of competitiveness in food processing SMEs in Indonesia, Hilman (2015) used an exploratory study design. Descriptive statistical methods were utilized to analyze and present the data, while inferential statistical methods (Chi-square and person's correlation) were used to test and interpret the results. According to research findings, innovation techniques improved the competitiveness of food processing companies. The results indicated that a crucial element that can enhance organizational performance and competitiveness is deployment of creative methods. The study had one drawback, however, focused a developed economy, whereas the current research was on a developing one.

Indahsarie et al. (2017) investigation aimed to determine how innovation techniques impact Sri-Lanka's small scale tea growers' profitability. Both stratified random sample and purposeful sampling were used in the study. Tables, graph charts, and figures were utilized to examine and present the data, whereas inferential approach was employed in validity testing. Weighted averages were used in interpretation. The study's foundation was agency theory. Results inferred that an unsupported innovation approach had a negligibly impacted tea processing enterprises' success. Because of environmental variables, the study was conducted in Sri Lanka and could not clearly identify the processing companies in Kenya.

African countries including Ghana, Botswana, South Africa and Egypt have acknowledged the severe rivalry in their tea sub sectors, forcing them to develop innovative tactics in order to stay competitive in the

economic climate. Beyond competition, effective new techniques lead to increased high performance (Aliasghar et al., 2019). The extent of sustainable competitiveness determines the extent to which tea manufacturers obtain a competitive advantage.

Nigeria's economy is fueled by tea companies, which produce roughly 2.4% of the nation's GDP (GDP). Reguia (2014) demonstrated a relationship between a company's longevity and its capacity to provide a competitive edge for its goods through product innovation in Algeria. Other aspects of innovation that also support organizational innovation and impact competitive advantage were not examined by the study. While Zakir (2017) observes that innovation favorably impacts returns on investment in the Ethiopian tea industry. Any business that employs ICT as a cutting-edge strategy outperforms its rivals in the market.

Ndemezo and Kayitana (2017) examined the link between organizational performance and innovation in Rwandan processing firms adopting a descriptive design and analyzing data using linear regression. Results indicated a positively substantial link between product, process, and innovation output and performance. The three main findings of this study were as follows: product innovation is related directly to process innovation, giving the summation that companies engaging in process innovation introduce improved or new products to markets; innovation output is associated with technology use; and "international quality-recognition" is a core factor influencing a company's financial performance. The study left a vacuum since it failed to take organizational innovation into account and lacked specific information on the theories she employed.

In a study by Macharia (2014) in Meru County, Kenya looked at how performance of industries managed by KTDA performed was affected by innovation strategy, they utilized a descriptive survey research methodology to describe and explain the independent variables and inferential statistical techniques to test the data. Multiple linear regression and Pearson's correlation was utilized in assessing strength and relevance of variables. Agency and survival-based theories were both used in the study. The core idea of the survival theory is that organizations must adapt to their competitive environment if they want to survive. Their research showed that the performance of KTDA-managed factories benefited from an innovation approach. The study had some flaws; it neglected to take into account leadership styles approach, which is crucial in steering organizations, and it failed to take into account all forms of innovation, including organizational and product innovation. Further studies are needed in determining how organizational performance of Kenyan tea processing companies is impacted by R&D leadership styles.

Researchers have stated that for companies to retain competitive advantage, they must innovate, introduce, and upgrade its products and methods (Egbetokun, Mendi, & Mudida, 2016). In contrast, they are the main tools of performance to expand the company's share of the market, penetrate new markets and gain an advantage over competitors. According to Elbanna, Kapoutsis and Mellahi (2017), poorly performing processing firms have effectively leveraged strategic management choices such as cost leadership, technological innovativeness and intellectual capital product broadening in positioning themselves against challenges in future, thereby enhancing performance in the long term.

According to Arunda's (2015) analysis, Safaricom Company's competitive advantage was significantly influenced by M-pesa innovation. The study did not take into account how market and process innovation impacts competitiveness. Scholars have focused primarily on one or two aspects of innovation while ignoring others, including market innovation. Additionally, they have focused on organizations other than manufacturing companies, with little to no evidence on the moderating impact of innovation on the connection between cost leadership strategy and sustainable performance. Based on the above arguments, the study prompts hypothesis H_{04}.

H_{04}: Innovation does not moderate the relationship between cost leadership strategy and sustainability of manufacturing firms.

III. Research Methodology

In order to test hypotheses and determine variable relationships, this study used an explanatory design. Studies establishing causal links between variables use explanatory design (Saunders et al., 2011). The study's primary goal was to quantify a link or compare groups on purpose to find a cause-and-effect association, hence the research design was appropriate.

The study's population comprised 536 respondents from 217 food and beverage manufacturing organizations, including 134 strategic managers, 134 operations managers, 134 procurement officers, and 134 finance. All 217 of Kenya's registered food and beverage manufacturing businesses, as recognized by the Kenya Association of Manufacturers, served as the study's sampling frame. A sample size of 230 participants was used in this study.

To choose the sample size, the researcher employed a stratified and straightforward random sampling procedure. The food and beverage manufacturing firms in Kenya were divided into four strata: procurement, finance, operations management, and strategic management. Each stratum was composed of these four departments. Simple random sampling was utilized in respondent selection from each stratum. The

appropriateness of simple random sampling was due to the diverse, spatially distributed and large population. Sample size determination was achieved by applying Yamane's (1972) formulae as a confidence level of 95%, where p=0.5 as shown:

$$n = \frac{N}{1 + N(e)^2}$$

Where; n = size of the sample, N = size of the population, e = error

$= 536/1+536(.05)^2$

= 230 participants

Subsequently, from a total of 536 participants, 230 managers were sampled.

Primary data from participants was obtained through questionnaire. The questionnaire was suitable since it enables rapid and effective data collection. Closed-ended questionnaires were issued to the managers. The study used self-administered structured questionnaires. All scales were previously developed in literature and was modified to fit in the study's nature. A 5-point Likert scale was used to measure the variables anchored by 1= strongly disagree/very dissatisfied to 5= strongly agree/very satisfied. The instrument was designed respective to the specific objectives.

Subsequent the collection of data, data quality was ensured by cleaning and identifying incomplete or incorrect responses and fixing them. This involved coding, collecting missing data, and inspecting and modifying for completeness. Data analysis was facilitated by categorizing, coding and entering using the Statistical Package for Social Sciences (SPSS) V26. Process macro and multiple regression analysis made up inferential statistics. Process macro is particularly practical for carrying out various regression studies incorporating mediation and moderation (Hayes, 2018). A macro is a syntax saved on a computer and contains a complex set of syntactic commands.

Process macro is an integrated measuring tool that follows Preacher and Hayes' (200) bootstrapped confidence interval request technique. The research demonstrated that this association's nature alters when the moderating variable (innovation) changes, supporting the hypothesis that a third variable has a moderating influence on the link between the variables cost leadership approach and sustainable performance. Additionally, process has an output option that was helpful in creating a visual picture of the interaction. Due to the mean centering option given in the command line, the data used to visualize the conditional influence of X on Y are based on this measure. The graphing tool can then be used to visually create the interaction's representation. Testing of hypothesis H_o was done by process macro using the three models shown;

$Y = \beta_0 + \beta_1 X_1 + e$ ……..Model 1

$Y = \beta_0 + \beta_1 X_1 + \beta_2 W_1 + e$……..Model 2

$Y = \beta_0 + \beta_1 X_1 + \beta_2 W_1 + \beta_3 X_1 * W_1 + e$……..…Model 3

Where:

Y: Sustainable performance

X_1: Cost leadership strategy

W_1: Innovation

β_0: Constant

$\beta_1 - \beta_3$: Regression coefficients

e: Error term

IV. Results

In determining innovation's moderation on the link between cost leadership strategy and sustainability, process macro was utilized. Moderation analysis was carried out to ascertain whether a third variable or group of variables had an impact on the important outcome variable. Multiple regression model was utilized to assess the link between the cost leadership approach and manufacturing firms' sustainable performance, as moderated by innovation. After putting cost leadership approach and innovation in the center and calculating their interaction term, the interaction and two predictors were added to a simultaneous regression model (Aiken & West, 1991).

The piece of output titled "R-square increase due to interaction" also includes a significance test and the percentage of the overall variance outcome exclusively related to the interaction. This was similar to the change in R2 upon adding the product to the model, which is shown in table 1 as R2 =.679, F (3, 220) = 377.99, p .001. The factors together explained around 67.9% of the variation in sustainability.

Table 1: Interaction of Cost leadership Strategy* Innovation on Sustainable Performance

Outcome: SP *Model Summary*						
R	R-sq	MSE	F	df1	df2	p
.824	.679	.092	377.994	3.000	220.000	.000
Model						

	coeff	se	t	p	LLCI	ULCI
constant	3.836	.026	147.987	.000	3.785	3.887
INS	-.186	.077	-2.428	.016	-.337	-.035
CLS	.712	.049	14.655	.000	.617	.808
int_1	.225	.060	3.754	.000	.107	.344

Interactions: int_1 CLS X INS

Results showed a positively significant association between sustainability of manufacturing enterprises and cost leadership approach (=.712, SE =.049, p=.000). However, there was a negatively significant link between innovation and the sustainability of manufacturing firms (= -.186, SE =.077, p =.016). The impact of cost leadership strategy on manufacturing firms' sustainability is dependent on innovation strategy, according to a significant interaction between cost leadership strategy and innovation (=.225, p=.000), hence statistically significant since p < .05. Hence Hypotheses $H_{01,}$ $H_{02,}$ H_{03} and H_{04} were rejected.

In moderation models, the main focus is the product coefficient of independent variables and moderator and significance. Upon adding the interaction between cost leadership strategy and innovation to the model, a significant variant proportion was accounted for in sustainability of manufacturing firms. It was showed by a R^2 change of .020, F change (1, 220) = 13.88, p = .000, as presented in Table 2.

Table 2: Test(s) of Highest Order Unconditional Interaction(s)

	R2-chng	*F*	*df1*	*df2*	*p*
X*W	.020	13.882	1.000	220.000	.000

Focal predict: CLS (X)
Mod var: INS (W)

Simple slopes for the link between cost leadership strategy and sustainability was measured for low (-1 SD below the mean), moderate (mean), and high (+1 SD above the mean) levels of sustainability. Each simple slope measure showed a significant link between cost leadership strategy and sustainability with innovation. However, the sustainability was strongly linked to high levels of cost leadership strategy β = .826, SE = .053, p =.000) than for moderator (β = .712, SE = .049, p =.000) or lower levels (β =, SE = .598, p = .062) of sustainability as indicated in Table 3.

Table 3 Conditional Effect of X on Y at Values of the Moderator(s)

INS	*Effect*	*se*	*t*	*p*	*LLCI*	*ULCI*
-.505	.598	.062	9.726	.000	.477	.720
.000	.712	.049	14.655	.000	.617	.808
.505	.826	.053	15.671	.000	.722	.930

Process provided an option of output that assisted in visually constructing an illustration of the link between cost leadership strategy and innovation. Figure 1 shows the simple slopes of the association between the variables cost leadership strategy and sustainability in presence of innovation. The interaction effect between cost leadership strategy and innovation on sustainability of manufacturing companies was significant.

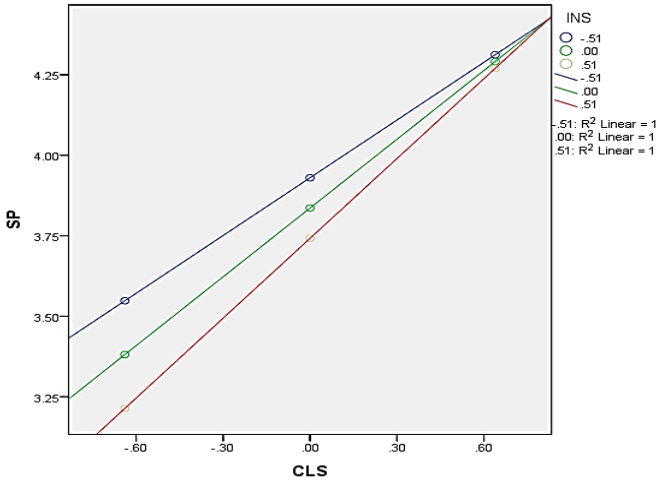

Figure 1: Interaction between Cost Leadership Strategy and Sustainability in Presence of Innovation

V. Discussion

The regression findings confirmed cost leadership approach had a considerable favorable influence on long-term viability of manufacturing companies (significant at $p < .05$; $\beta = 0.826$). This suggests that an increase of 0.826 units in the sustainable performance of manufacturing enterprises will result from a unit of improvement in efficient deployment of cost leadership methods. The results augur with Kurt and Zehir (2016) study carried out to investigate the association of cost leadership strategy to MSMEs financial performance in Gebze and Istanbul that concluded a favorable and significant link between cost leadership and performance.

The findings support the 2020 research by Nyachwaya and Rugami that discovered a strong positive correlation between commercial banks' performance and their cost leadership approach in Mombasa County, Kenya. Kharub, Mor, and Sharma's (2018) findings alternatively exhibited insignificant correlation between cost leadership strategy and performance of firms when they looked at the link between cost leadership approach and competitive approach of MSMEs viability in Himachal Pradesh, India. The lack of significance of the association can be the result of measurement and sampling flaws.

The findings exhibited negative significant link between innovation and sustainability of manufacturing enterprises (β= -.186, SE =.077, p =.016). This augurs with recommendations of AlQershi et al (2018), that strategic innovation significantly impacts sustainability of Arab manufacturing enterprises.

Cost leadership approach impact on the sustainability of manufacturing enterprises is dependent on innovation strategy, according to a significant interaction between cost leadership approach and innovation (β =.225, p=.000). This supports Chen & Liu's (2019) conclusion that enterprises which engage in green product innovation while pursuing a cost leadership approach can be shown to be efficient. A cost leadership approach may also promote the pursuit of several innovation-related gains.

In fact, businesses tend to promote and utilize environmental qualities of green products to assure the advantages of product innovation (Chen & Liu 2019).The cost leadership approach, however, places more of an emphasis on activities and projects that should save costs than it does on promoting new product development or foraying into untapped markets. As a result, implementing a cost leadership approach has a likelihood of impacting earnings generated by the development of green products. This concurs with Chen & Liu (2019), who state that companies that use cost leadership tactics may also guarantee stakeholder support by obtaining certification for environmentally sound business practices like ISO 14001.

VI. Conclusion

It was established that a substantial positive link exists between cost leadership approach and sustainability of manufacturing firms. Firm innovation greatly impacted how well manufacturing companies performed over the long term. Innovation strategy impacted long-term sustainability of manufacturing companies depends on the cost leadership plan. The conclusion of the study was that innovation moderated the association between sustainability of Kenyan manufacturing businesses' and their cost leadership approach.

VII. Implications

Furthermore, this research provides policy implications on boosting strategic innovation among companies in the manufacturing sector. Despite the fact that this study provides various strategies for manufacturing companies to be strategically innovative, it is likely impossible for them to apply all proposed innovative forms, particularly in a country like Kenya or other developing counties.

However, the most important sorts of innovation are those related to products, markets, and finances. The significance of innovation as a crucial element affecting a company's overall performance has grown. However, further research has to be done in other sectors to see how it affects the link between the different innovation strategies and sustainability.

The decision-makers at manufacturing businesses may use the study's recommendations to better manage resources and improve sustainable performance. A greater emphasis should be put on creating an inventive culture inside manufacturing companies since innovation is essential for sustainability and is equally pivotal for competitiveness.

VIII. Recommendations

The recommendations are as follows: It is crucial for strategic managers to take into account cost leadership strategies for sustainability and their aims to be achieved. Not only should they recognize and use these cost drivers, but they should also regularly check the processes along the value chain and increase their use of economies of scale.

According to the report, the company should develop a variety of pricing techniques, such as creating customized deals for its devoted clients. The company should keep an eye on its prices if it wants to stay ahead of its primary competitors. The distribution channels of the company should be widened as it expands in order to boost revenue, widen the brand's impact, and enhance customer service.

According to the report, the firm's operations strategy should encourage the creation of infrastructure design, rules and process, choices for systems, and controls that are in accordance with the firm's defined competencies. The study suggests that, in order to achieve world-class status, operations should be integrated with sustainability.

In terms of policy, it is recommended that governments should support new projects and offer training assistance to production companies. Additionally, the research provides implications towards fostering innovation especially for manufacturing companies.

The adoption of cost leadership tactic and the long-term performance of manufacturing companies served as the foundation for this study. To make comparisons, more studies should investigate utilization of cost leadership tactics in other sectors.

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