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STRATEGIC MANAGEMENT

EFFECT OF SUPPLY CHAIN RISK AVOIDANCE STRATEGIES ON THE FINANCIAL PERFORMANCE OF MANUFACTURING FIRMS: AN EMPIRICAL ANALYSIS IN NAKURU COUNTY

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ABSTRACT

Purpose of Study: Therefore, the study sought to determine the effect of supply chain risk avoidance strategy on financial performance of manufacturing firms in Nakuru County.

Problem Statement: Manufacturing firms are faced with challenges associated with high production costs, including expenses related to raw materials, labor, energy, and maintenance. These costs can erode profit margins and affect overall financial performance. The study was guided transaction cost economics theory.

Methodology: The study adopted descriptive research design. The unit of analysis was 52 manufacturing firms in Nakuru County. The unit of observation was 52 supply chain managers and 52 finance managers from 52 manufacturing companies in Nakuru County. Since the study population is manageable the researcher adopted census to include all the 104 targeted respondents. The main data collection instrument for this study was structured questionnaire. Quantitative data was analyzed by utilization of Statistical Package for Social Sciences Descriptive and inferential statistics was employed in the study. Descriptive statistics involved the use of percentages, frequencies, measures of central tendencies (mean) and measures of dispersion (standard deviation). Inferential statistics involved the use of regression analysis to establish the relationship between supply chain risk avoidance strategy and financial performance. The study however used correlation analysis to test for the nature and the strength of the association between these variables.

Result: The findings revealed a strong positive and statistically significant correlation between supply chain risk avoidance and financial performance.

Conclusion: The study also concluded that dual sourcing provides access to a wider range of suppliers. Moreover, the study concluded that strategic alliance allows for the sharing of resources, and capabilities.

Recommendation: From the findings the study recommended that firms should focus on proactively avoiding high-risk scenarios in their supply chains. This could involve careful vetting of suppliers, avoiding over-reliance on single suppliers or regions prone to instability, and selecting supply chain partners with strong financial and operational track records.

Keywords: *Supply Chain Risk Avoidance, Financial Performance, Manufacturing Firms, Empirical Analysis, Nakuru County*

INTRODUCTION

Financial performance of a manufacturing firm directly influences its market value (Audax, 2018). Financially performing firms have access to capital markets and can secure funding for investments in technology, infrastructure, and research and development. Sound financial performance enables manufacturing firms to effectively manage risks and navigate challenges such as market volatility, supply chain disruptions, and regulatory changes. Positive financial performance reflects effective management practices, transparency, and accountability, fostering trust among customers, suppliers, employees, and the community (Lyngstadaas, 2020).

Supply chain risk management strategies play a pivotal role in shaping the financial performance of manufacturing firms (Sezen *et al.,* 2021). At the heart of this relationship lies the recognition that supply chains are susceptible to various risks, ranging from disruptions in raw material supply to geopolitical uncertainties. Effective Supply Chain Risk Management Strategies (SCRM) are designed to mitigate these risks and safeguard the continuity of operations, thereby directly impacting the financial bottom line of manufacturing firms.

One key aspect of SCRM strategies is the proactive mitigation and monitoring of potential risks along the supply chain. By conducting risk valuations and scenario analyses, firms can anticipate and prepare for disruptions before they occur. This foresight enables them to implement contingency plans, such as alternative sourcing options or inventory buffering, to minimize the impact of disruptions on production schedules and revenue streams (Truong & Hara, 2018). Consequently, firms that adopt robust SCRM strategies are better equipped to maintain operational stability and meet customer demand, thereby enhancing their financial performance.

Moreover, SCRM strategies contribute to cost efficiency and resource optimization within manufacturing firms. By streamlining supply chain processes, improving supplier relationships, and enhancing visibility across the supply chain network, firms can reduce

operational costs and enhance resource utilization. Furthermore, by effectively managing risks associated with supply chain disruptions, firms can avoid costly downtime, expedited shipping expenses, and inventory stockouts, all of which can erode profitability. As a result, firms that prioritize SCRM not only mitigate potential financial losses but also create opportunities for cost savings and improved profitability over the long term (Kiarie, 2017).

Supply chain risk avoidance is a supply chain risk management practice that involves taking actions to eliminate or entirely avoid exposure to certain risks (DuHadway, Carnovale & Hazen, 2019). In this context, risk avoidance aims to prevent the occurrence of events or conditions that could negatively impact the supply chain. While complete risk avoidance might not be feasible for all risks, especially those inherent in the business environment, it is a strategy that can be employed for specific and highly impactful risks. The first step in risk avoidance is identifying and assessing critical risks that have the potential to severely disrupt the supply chain. This involves a comprehensive analysis of internal and external factors that could pose significant threats (Schroeder & Lodemann, 2021).

German manufacturing companies are renowned for their meticulous approach to supply chain risk management. One of the key strategies they adopt is supplier diversification. Maintaining relationships with multiple suppliers, both domestically and internationally, German firms mitigate the risk of disruption from a single source. These companies also prioritize building collaborative relationships with key suppliers, characterized by transparency and trust. This collaborative approach enables proactive risk mitigation and monitoring, ensuring continuity of supply (Norrman & Wieland, 2020). Moreover, German manufacturers leverage advanced technologies such as IoT and AI to enhance supply chain visibility and resilience. Real-time monitoring allows for early detection of potential risks, enabling timely intervention. Additionally, these companies develop robust contingency plans to address various disruptions, outlining alternative sourcing options and crisis response protocols. Overall, German manufacturing companies prioritize proactive risk management to maintain operational efficiency and competitiveness in the global market (González-Ramírez, Gasco & Llopis, 2021).

In Rwanda, supply chain risk management is crucial for manufacturing firms operating in a diverse and sometimes volatile environment (Vieira *et al.,* 2020). Supply chain disruptions are significant on the financial performance of Rwandan manufacturing firms, underscoring the need for proactive risk mitigation strategies. Supply chain transparency and collaboration

plays a crucial role in enhancing risk management capabilities and driving financial resilience for Rwandan manufacturers. Government support and infrastructure investment is important in fostering supply chain stability and improving financial outcomes for Rwandan firms (Boyens *et al.,* 2020).

Manufacturing firms in Kenya engage in systematic processes to identify potential risks across their supply chains (Memia, 2018). This involves a comprehensive analysis of various factors that could impact the continuity of operations. Risks may include supplier issues, geopolitical uncertainties, natural disasters, regulatory changes, and economic fluctuations. Firms conduct thorough monitoring of their suppliers to identify vulnerabilities. This includes evaluating the financial health, reliability, and geographical location of suppliers. The goal is to understand potential risks associated with each supplier and establish alternative sourcing strategies if needed (John, 2018). Manufacturers analyze geopolitical factors and regulatory environments to identify potential risks. Changes in government policies, trade agreements, or geopolitical tensions can have profound effects on the supply chain. This analysis helps firms anticipate and navigate potential disruptions. Given Kenya's susceptibility to certain natural disasters, firms assess the risks associated with events such as droughts, floods, and other climate-related disruptions. This involves mapping the supply chain to identify areas that may be vulnerable to such events.

Financial performance refers to the evaluation of a company's overall fiscal health and efficiency in managing its financial resources (Gartenberg *et al*., 2019). It involves assessing various aspects of a firm's financial activities and results over a specific period. Financial performance indicators provide insights into how well a business is generating revenue, managing costs, and creating value for its shareholders. Financial performance indicates the organizational capacity to fully utilize assets realized from its main primary business to raise and generate profits. Financial performance is used to determine the firm's profit level over a given time (Cho, Chung & Young, 2019).

Measuring financial performance is essential for manufacturing firms to evaluate their operational efficiency, profitability, and overall health. Among the key measures used, revenue growth stands as a fundamental indicator, showcasing a firm's ability to expand sales over a specific period and penetrate new markets. Accompanying this is the gross profit margin, reflecting the percentage of revenue retained after deducting the cost of goods sold.

This metric reveals the efficiency of production processes, pricing strategies, and supply chain management, all contributing to overall profitability (Cho, Chung &Young, 2020).

Operating profit margin further delves into profitability by assessing the percentage of revenue remaining after deducting operating expenses, indicating the firm's capacity to generate profits from core operations. Meanwhile, the net profit margin offers a comprehensive view, considering all expenses, including taxes and interest payments, to gauge profitability accurately (Matar & Eneizan, 2021). Return on Assets (ROA) evaluates the firm's efficiency in generating profits relative to its total assets, while Return on Equity (ROE) measures profitability concerning shareholders' equity, both crucial for assessing financial efficiency and shareholder value creation. Additionally, inventory turnover ratio reveals inventory management efficiency, and the debt-to-equity ratio evaluates the firm's capital structure and financial risk.

Kenya's manufacturing industry grew at 3.5% in 2015 and 3.2% in 2014, contributing 10.3% to GDP. However, manufacturing in Nakuru has grown at a slower pace on average than the economy, which in 2019 expanded by 5.6 percent. Over the years, manufacturing firms in Nakuru have experienced fluctuating revenue growth rates influenced by changes in consumer demand, market competition, and economic conditions (Kaburu, 2021). During periods of economic expansion, revenue growth has been robust, while economic downturns could lead to slower growth or even decline in revenues. Profit margins vary over time due to fluctuations in input costs (such as raw materials and labor), pricing dynamics, and operational efficiency. Manufacturing firms in Nakuru have recently invested in new technologies and innovation to improve production processes, product quality, and market competitiveness (Adhiambo, 2023).

STATEMENT OF THE PROBLEM

Manufacturing firms play a crucial role in economic development, contributing significantly to employment generation and GDP growth. However, like any other sector, they face various challenges that affect their financial performance. On the global stage, Brazil's manufacturing sector has been facing serious challenges in recent years. According to the Brazilian Institute of Geography and Statistics (IBGE), industrial production declined by 0.3% in 2023 compared to the previous year. The sector has been grappling with issues such as high interest rates, which increased to 13.75% in 2023, making borrowing more expensive

for businesses. Regionally, Ghana's manufacturing sector has been experiencing mixed performance in recent years. According to the Ghana Statistical Service, the sector's growth rate was 3.1% in 2022, showing some improvement from previous years. However, manufacturers continue to face significant challenges. These include high energy costs, with electricity tariffs increasing by 29.96% for industry in 2022, as reported by the Public Utilities Regulatory Commission (PURC).

Manufacturing firms in Nakuru County are facing a series of challenges impacting their financial performance (Kenya Association of Manufacturers Annual Report, 2021). In the past two decades, Nakuru City has experienced slowed manufacturing activity and a sharp decline in industries, resulting in thousands of people being rendered jobless with a ripple effect of higher poverty levels. Eveready closed shop in 2014 after the management said it could not compete against cheap dry cell batteries imported from China that had flooded the market, while Sam-Con Limited, a steel-body fabricating company that also sold Isuzu Trucks, relocated to Nairobi (Kenya Association of Manufacturers Annual Report, 2023). This situation not only strained the company's financial resources but also raised doubts about firms' long-term ability to meet their debt obligations. There is a noticeable trend of declining profit margins attributed to rising production costs, heightened competition and lack of well-defined supply chain risk management strategies (Gathwe, 2022). These factors collectively contribute to shrinking profit margins, jeopardizing the financial sustainability of these firms. Additionally, many of these firms are experiencing stagnant or declining revenues due to subdued demand for their products domestically and internationally (Beckert, 2019).

Various studies have been conducted on the effect of supply chain risk management on financial performance. For instance, Karani (2022) conducted a study on the effect of supply chain strategies on the performance of manufacturing firms in Kenya. The study concluded that supply chain strategies are significant contributors of manufacturing firms' performance. However, the study focused on supply chain strategies whereas the current study focused on supply chain risk management strategies. Another study was conducted by Nabukaki and Omwenga (2022) on the effect of risk management strategies on financial performance of Jomo Kenyatta International Airport. The study established that risk reduction strategy significantly and positively influences financial performance of Jomo Kenyatta International Airport. However, the study was focused on financial performance of JKIA.

Asikhia (2022) did a study on supply chain risk management and business performance of selected oil and gas marketing companies in Lagos State, Nigeria. The study concluded that supply chain risk management strategy had significant effect on business performance of oil and gas marketing companies in Lagos, Nigeria. The study was however, conducted in Nigeria oil and gas marketing companies hence the findings might not be applicable in the case of manufacturing companies in Nakuru County. Therefore, the current study focused on the effect of supply chain risk avoidance strategy on financial performance of manufacturing firms in Nakuru County.

RESEARCH OBJECTIVE

To determine the effect of supply chain risk avoidance strategy on financial performance of manufacturing firms in Nakuru County.

RESEARCH QUESTION

What is the effect of supply chain risk avoidance strategy on financial performance of manufacturing firms in Nakuru County?

THEORETICAL FRAMEWORK

The study was anchored on Transaction Cost Economics. Transaction Cost Economics (TCE), developed by Williamson (1979), focuses on the idea that economic transactions incur costs beyond the price of goods or services exchanged. TCE seeks to explain how firms make governance choices to minimize transaction costs associated with coordinating economic activities across markets and hierarchies. Proponents of TCE, such as Coase (2001), argue that the theory provides valuable insights into the determinants of governance structures and the boundaries of the firm. They assert that TCE offers a rigorous framework for understanding how firms balance the benefits of market coordination with the costs of opportunism and uncertainty.

The strengths of TCE lie in its ability to explain the rationale behind organizational choices regarding governance structures and transaction arrangements. The theory provides a robust framework for analyzing the trade-offs between the efficiency of market transactions and the control provided by hierarchical arrangements (Holcombe, 2018). Moreover, TCE offers practical implications for contract design and organizational design, guiding managers in

making governance decisions that minimize transaction costs and maximize firm performance.

Critiques of TCE include concerns about its assumptions of rationality and opportunism, as the theory may not fully capture the complexity of human behavior and motivations (Cuypers *et al.,* 2021). Additionally, some scholars argue that TCE oversimplifies the role of information and uncertainty in economic transactions, neglecting the importance of context-specific factors and institutional arrangements (Rindfleisch, 2020). Furthermore, TCE has been criticized for its static view of governance structures, as it may not adequately account for changes in transaction costs and environmental dynamics over time. Despite these criticisms, TCE remains a prominent theory in organizational economics and strategic management research.

The study was relevant to the current study since it emphasizes the importance of minimizing transaction costs associated with coordinating economic activities across supply chains. By avoiding potential risks through strategies such as vertical integration or long-term supplier contracts, firms can reduce uncertainty and transaction costs, leading to improved financial performance. Therefore, the theory helped in explaining the effect of supply chain risk avoidance on financial performance of manufacturing firms in Nakuru County. Moreover, Transaction Cost Economics (TCE) informs the study by helping the researcher understand how manufacturing firms in Nakuru can implement strategies that increase short-term costs (e.g., diversifying suppliers or holding larger inventories) but potentially reduce long-term transaction costs associated with supply chain disruptions, thus impacting overall financial performance.

EMPIRICAL REVIEW

Supply Chain Risk Avoidance Strategy and Financial Performance

Anderson, Park and Sharma (2019) investigated the relationship between supply chain risk avoidance and sustainability practices in the pharmaceutical industry. The study surveyed 100 pharmaceutical companies and analyzed financial data using a quantitative research design. Results indicated that companies adopting risk avoidance measures, such as stringent supplier screening and contingency planning, demonstrated higher levels of sustainability performance, including ethical sourcing practices and waste reduction initiatives.

Chavez, (2022) did a study on the supply chain risk avoidance on sustainability: A Case Study of the Coffee Industry in Colombia. This qualitative study utilized interviews and focus group discussions to explore risk avoidance strategies in the coffee supply chain in Colombia. The sample comprised 25 stakeholders selected through purposive sampling. Thematic analysis was employed to identify and categorize risk avoidance practices. Findings highlighted strategies such as crop diversification and fair-trade certification, emphasizing their role in promoting sustainable coffee production.

Guo, (2021) did a study on the implementing supply chain risk avoidance on sustainability: perspectives from the textile Sector in Bangladesh. Using a mixed-methods approach, this research combined surveys and interviews to examine risk avoidance strategies in the textile supply chain in Bangladesh. The sample included 50 textile manufacturers selected through stratified random sampling. Quantitative data were analyzed using statistical techniques, while qualitative data underwent thematic analysis. Results revealed practices such as waste reduction and supplier collaboration as effective in mitigating sustainability risks.

Ochola, Lucas and Nyamita (2022) did a study on the effect of risk avoidance on performance of devolved governments in Kenya. The study was anchored on the agency and stakeholder theory. A correlational research design was used. The study targeted 423 respondents in the 47 devolved governments departments in Kenya. A sample size of 381 respondents from the devolved governments departments was drawn from the targeted population using stratified sampling technique. The study used primary data from the use of questionnaires. Data was presented using tables. The findings indicated that risk avoidance had a statistically considerable effect on performance of devolved governments in Kenya.

Mwangi (2018) did a study on the effect of risk management on financial performance of commercial banks in Kenya. Data was collected from Central Bank and banks financial reports. Multiple regression analysis used in the data analysis. From the findings the study found that there was a strong positive relationship between risk management and financial performance of commercial banks in Kenya. The study also found that there was a negative relationship between credit risk, insolvency risk, interest rate sensitivity and financial performance of commercial banks. The study further revealed that there was a positive relationship between capital adequacy, size of the banks, operational efficiency and financial performance of commercial banks.

Financial Performance

Anitha (2018) studied factors affecting the financial performance of manufacturing firms listed in the Nairobi securities exchange in Kenya. The study employed a longitudinal design to analyze the determinants of financial performance in manufacturing firms listed in NSE Kenya. The target population of the study was ten listed manufacturing firms in Kenya. The sample size was ten listed manufacturing firms. The study used secondary data. Data were obtained from audited financial reports. The study established that firm size had a significant influence on the financial performance of manufacturing firms listed in NSE. The correlation analysis showed that an increase in firm size led to a rise in the financial performance of manufacturing firms listed in NSE Kenya.

Maji, Laha and Sur (2022) assessed the factors affecting the financial performance of firms. The study conducted an exploration of the existing research works. The results of the study indicated that liquidity, leverage, and productivity positively affect firm performance, while solvency and asset turnover are positive and statistically significant only in the case of return on equity. The study concluded that labor productivity induces firms tend to display larger efforts to keep financial performance in the face of a crisis, considering that the crisis reveals a negative statistical impact on return on assets.

Le and Tram (2021) conducted a study on factors affecting the business performance of manufacturing enterprises. The study has surveyed 285 manufacturing enterprises in central Vietnam as a representative sample, through which the research has analyzed the current status of the operation of manufacturing enterprises in Central Vietnam. Besides, the study has given specific policy suggestions through the current situation and research model to improve business performance for manufacturing enterprises in Central Vietnam in the future.

Kim, Duvernay and Thanh (2019) examined the determinants of financial performance of listed firms manufacturing food products in Vietnam. The study targeted 30 listed food processing companies in Vietnam from 2014 to 2019. STATA software was used to analyze data. The study employed a regression analytical technique. The study found that total assets turnover ratio (ATR) and growth in sales significantly influence financial performance, when it is measured by return on equity (ROE) or return on sales (ROS). The study concluded that leverage has a significant negative impact on return on sale.

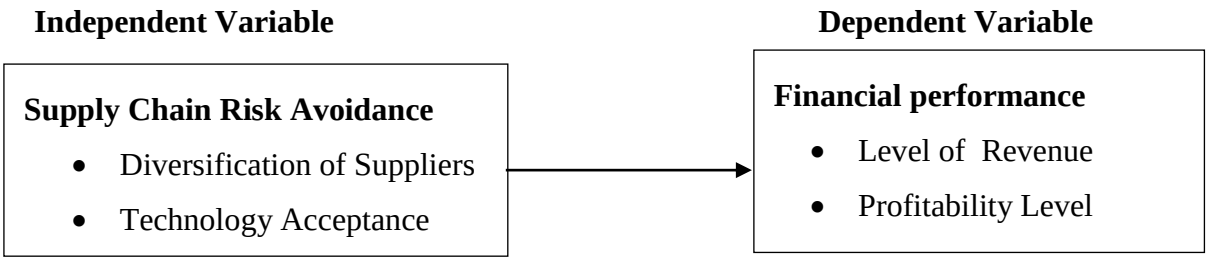

Figure 1: Conceptual Framework

Source: Own Conceptualization

RESEARCH METHODOLOGY

The study adopted descriptive research design. Descriptive research design involves systematically collecting and analyzing data to describe characteristics, behaviors, or phenomena as they exist naturally, without manipulating any variables. This design was appropriate for the study because it allowed for the collection of comprehensive and detailed information and as well as generalization of information generated from a sample to represent the overall target population. The unit of analysis was 52 manufacturing firms in Nakuru County. The unit of observation was 52 supply chain managers and 52 finance managers from the 52 manufacturing companies in Nakuru County. Therefore, the total population of the study was 104 respondents. The choice of supply chain managers as target population is because they are directly responsible for managing the flow of goods, information, and finances throughout the supply chain. Since the study population is manageable the researcher adopted census to include all the 104 targeted respondents. Census design is a study of every unit, everyone or everything in a population.

The data collection instrument for this study was structured questionnaire. This was developed through the guidance of the objectives and the research question. Questionnaire is the most appropriate instrument since it makes it easier for the researcher to collect data from respondents. It also permits greater depths of response on the subject to be obtained. The researcher first sought permission from the University to collect data in form of introduction letter. The researcher then proceeded to visit the manufacturing firms. During this introductory visit, the researcher further informed the manager of the sampled manufacturing firms about the research study. To ensure data protection of the respondents, the researcher strictly adhered to ethical guidelines and maintain confidentiality.

Data analysis comprises cutting the acquired information into a manageable size, coming up with summaries, looking for patterns, and applying statistical techniques. The data that was gathered in this study was both quantitative and qualitative in nature. Quantitative data was analyzed using the Statistical Package for Social Sciences (SPSS) version 25. Descriptive and inferential statistics were employed in the study. Descriptive statistics involves the use of percentages, frequencies, and measures of central tendencies, including mean and measures of dispersion, such as standard deviation). A regression model was used to measure a direct effect/relationship between variables to check if there is a linear relation between them. Inferential statistics involves the use of simple and multiple regression analysis to establish the relationship among the study variables, while the Pearson coefficient was used to test the strength of the relationship. A linear outlay of results indicated a direct relationship that shows that there exists a relationship between the dependent and the independent variables. After analysis, quantitative data was presented in the form of tables, while qualitative data was presented in prose form.

$Y = \beta_0 + \beta X + \varepsilon$

Y represents Financial Performance of Manufacturing Firms

$\boldsymbol{\beta_0}$ represents Constant Term

X represents Supply Chain Risk Avoidance Strategy

$\boldsymbol{\varepsilon}$ represents Error Term

β Represents Regression Coefficients for Independent Variables.

FINDINGS AND DISCUSSION

The researcher distributed 104 questionnaires out of which 80 were successfully filled at returned. This represented a response rate of 77%. A response rate of 60% is generally deemed acceptable in research, with higher rates providing greater confidence in the representativeness of the sample (Baruch & Holtom, 2018). Therefore 77% response rate was sufficient for the analysis.

Demographic results revealed that 54% of the respondents were male, while 46% were female. This implies that the majority of the employees at manufacturing firms in Nakuru County were male. Gender-diverse teams can leverage a wider network of contacts and relationships, which can be beneficial in building and maintaining strong supplier

relationships. The study also found that 19% of the respondents revealed that they had a certificate level of education, 32% indicated that they had a diploma education, 39% indicated that they had an undergraduate degree, 7% indicated that they had postgraduate education, while 3% had a PhD education level.

The findings revealed that 11% had worked in the organization for less than 3 years, 23% had worked in the organization for 3-9 years, 31% had worked in the organization had worked in the organization for 10-15 years, while 35% had worked in the organization had worked in the organization for over 20 years. This implies that the majority of the employees at state corporations operating in the manufacturing firms in Nakuru County had worked for the organization for more than 15 years and 11-15 years. Experienced supply chain managers have practical insights gained from years of handling various supply chain scenarios. This experience allows them to make informed decisions quickly and effectively, addressing issues and optimizing processes based on a deep understanding of past challenges and solutions. The findings also revealed that 58% of the respondents held a position of a supply chain manager while 42% of the respondents held a position of a finance manager. The findings indicate that the position with the highest representation is supply chain management position.

Descriptive Statistics

Supply Chain Risk Avoidance on Financial Performance

The researcher aimed to assess the effect of supply chain risk avoidance on financial performance of manufacturing firms in Nakuru County. The results are shown in Table 1.

Table 1: Supply Chain Risk Avoidance on Financial Performance

Statement	SA %	A %	U %	D %	SD %	Mean	Std
Diversifying suppliers help manufacturing firms reduce reliance on a single supplier	26	47	17	10	0	3.887	0.907
Diversify suppliers allows for flexibility in sourcing decisions	37	45	13	5	0	4.113	0.870
Diversify suppliers enable manufacturing firm to adapt to changing market conditions	55	42	3	0	0	4.516	0.565
Dual sourcing provides access to a wider range of suppliers	57	37	6	0	0	4.500	0.621
Strategic alliance allows for the sharing of resources, and capabilities	29	41	12	10	8	3.631	1.152
Strategic alliance allows the firm to pool resources and expertise from multiple partners	39	38	10	13	0	3.631	1.152

From the findings, 26% of respondents strongly agreed that diversifying suppliers help manufacturing firms reduce reliance on a single supplier, 47% agreed, 17% were neutral, 10% disagreed, and none strongly disagreed that diversifying suppliers help manufacturing firms reduce reliance on a single supplier with a mean of 3.887 and a standard deviation of 0.907. Also, 37% of respondents strongly agreed that diversify suppliers allows for flexibility in sourcing decisions, 45% agreed, 13% were neutral, 5% disagreed, and none strongly disagreed that diversify suppliers allows for flexibility in sourcing decisions with a mean of 4.113 and a standard deviation of 0.870. By having a diverse supplier base, firms can access a range of products and services from different sources. This diversity allows for greater flexibility in choosing suppliers based on price, quality, and other factors, ensuring that the firm can adapt to changing needs and conditions.

Further, 55% strongly agreed and 42% agreed 3% were neutral while none disagreed or strongly disagreed that diversify suppliers enable manufacturing firm to adapt to changing market conditions with a mean of 4.516 and a standard deviation of 0.565. The study findings are in tandem with Chavez, (2022) which stated that supplier diversification is a powerful strategy for manufacturing firms to adapt to changing market conditions, manage risks, and enhance overall supply chain performance.

Similarly, 57% of the respondents strongly agreed that dual sourcing provides access to a wider range of suppliers, 37% agreed, 6% were neutral, while none disagreed or strongly

disagreed that the dual sourcing provides access to a wider range of suppliers with a mean of 4.500 and a standard deviation of 0.621. Moreover, 29% strongly agreed that strategic alliance allows for the sharing of resources, and capabilities, 41% agreed, 12% were neutral, 10% disagreed, and 8% strongly disagreed that strategic alliance allows for the sharing of resources and capabilities, with a mean of 3.631 and a standard deviation of 1.152. Strategic alliances enable firms to pool their resources, such as technology, capital, and expertise. By combining these resources, partner firms can achieve economies of scale, reduce costs, and enhance their overall capabilities.

Furthermore, 39% strongly agreed that strategic alliance allows the firm to pool resources and expertise from multiple partners, 38% agreed, 10% were neutral, 13% disagreed that strategic alliance allows the firm to pool resources and expertise from multiple partners with a mean of 3.631 and a standard deviation of 1.152. The study findings agree with the findings of Ochola, Lucas and Nyamita (2022) who concluded that strategic alliances offer manufacturing firms a powerful way to pool resources and expertise, expand market reach, and drive innovation.

Financial Performance of Manufacturing Firms

The researcher aimed to assess the effect of participative management on the financial performance of manufacturing firms in Nakuru County. The results are shown in Table 2.

Table 2: Financial Performance of Manufacturing Firms

Statements	SA	A	N	D	SD	Mean	Std
The firm has recorded an increase in revenue for the past two years	18	64	6	12	0	3.855	1.185
Sustainable revenue growth often indicates that a company has a competitive advantage in its industry	42	32	12	14	0	4.403	0.778
The market share of the firm has increased for the past two years	30	40	18	12	0	4.307	0.738
The company has higher market value over the competitors	42	30	16	12	0	4.145	0.807
Companies with higher market values often have easier access to capital through equity financing, debt issuance	52	32	6	10	0	4.387	0.869

The findings indicated that 18% of respondents strongly agreed that the firm has recorded an increase in revenue for the past two years, 64% agree 6% were neutral, while 12% disagree

that the firm has recorded an increase in revenue for the past two years with a mean of 3.855 and a standard deviation of 1.185. Also, 42% of the respondents strongly agreed that sustainable revenue growth often indicates that a company has a competitive advantage in its industry and 32% agreed, 12% were neutral, while 14% disagreed that sustainable revenue growth often indicates that a company has a competitive advantage in its industry with a mean of 4.403 and a standard deviation of 0.778.

In addition, 30% of respondents strongly agreed that the market share of the firm has increased for the past two years, 40% agree, 18% were neutral, while 12% disagree that employees express high level of satisfaction for the past five years with a mean of 4.307 and a standard deviation of 0.738. According to Mwangi (2018), high levels of employee satisfaction over an extended period indicate a well-managed and supportive workplace environment. By maintaining the factors that contribute to satisfaction and addressing any emerging issues, organizations can continue to reap the benefits of a satisfied and engaged workforce.

Further, the findings revealed that 42% of respondents strongly agreed that the market share of the firm has increased for the past two years, 30% agreed, 16% were neutral while 12% disagreed that the market share of the firm has increased for the past two years with a mean of 4.145 and a standard deviation of 0.807. In addition, 52% strongly agreed that the company has a higher market value over the competitors and 32% agreed, 6% were neutral, and 10% disagreed that the company has a higher market value over the competitors, with a mean of 4.387 and a standard deviation of 0.869.

Further, 45% of respondents strongly agreed that companies with higher market values often have easier access to capital through equity financing, debt issuance, 40% agreed, 13% were neutral, while 2% disagreed that companies with higher market values often have easier access to capital through equity financing, debt issuance with a 4.371 and a standard deviation of 0.607.Mutuku (2020) demonstrated that higher market values enhance a firm's ability to access capital through both equity financing and debt issuance. This access supports growth, operational flexibility, and financial health.

Correlation Analysis

Correlation is a technique for investigating the relationship between two quantitative, continuous variables. The study adopted Pearson correlation analysis. Pearson's correlation

coefficient (r) a measure the strength of the association between the two variables. As indicated in table 3.

Table 3: Correlation Analysis

		Supply Chain Risk Avoidance
	N	
Supply Chain Risk Avoidance	Pearson Correlation	.641
	Sig. (2-tailed)	098
	N	80
Financial Performance	Pearson Correlation	.641**
	Sig. (2-tailed)	.000
	N	80

As indicated in Table 3, there was a strong positive and statistically significant correlation between supply chain risk avoidance and financial performance ($r=0.641$; $p<0.05$). This implies that better supply chain risk avoidance enhances the financial performance of manufacturing firms in Nakuru County. The findings are in line with Ochola, Lucas and Nyamita (2022) who concluded that implementing strategies such as diversifying suppliers, securing long-term contracts, and investing in reliable logistics infrastructure, firms can reduce their exposure to risks like supply shortages, price volatility, and transportation delays. Effective risk avoidance measures help to maintain consistent production schedules and avoid unexpected costs, thereby safeguarding profit margins and reducing financial instability.

Regression Analysis

Table 4: ANOVA of the Regression Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.930	4	4.483	56.747	.000[b]
	Residual	5.917	75	.079		
	Total	23.847	79			

a. Predictors: (Constant), Supply chain risk mitigation, supply chain risk monitoring, supply chain risk avoidance, and supply chain risk transfer

b. Dependent Variable: Financial performance of manufacturing firms in Nakuru County

In the ANOVA table above, the *F* statistic = 56.747, as illustrated in Table 4. Since the f calculated is greater than the f statistic, it means that the model is statistically significant. Therefore, there is strong evidence that the regression results are statistically significant, and the variation in the results is insignificant, which cannot result in much difference in case of a change in the study units (population), and therefore, the model did for the data.

Table 5: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.627	.490		1.280	.207
	Supply Chain Risk Avoidance	.612	.207	.423	2.956	.005

Dependent Variable: Financial performance of manufacturing firms in Nakuru County

The results revealed that a unit increase in supply chain risk avoidance would result to 0.612 times increase in financial performance of manufacturing firms in Nakuru County.

$Y = Y = 0.627 + 0.612X$

CONCLUSION

From the findings of the study on the effect of supply chain risk avoidance on financial performance, the study concluded that diversify suppliers allows for flexibility in sourcing decisions. The study also concluded that dual sourcing provides access to a wider range of suppliers. Moreover, the study concluded that strategic alliance allows for the sharing of resources, and capabilities. From the correlation analysis, the study concluded that there was a strong positive and statistically significant correlation between supply chain risk avoidance and financial performance ($r=0.690$; $p<0.05$). This implies that better supply chain risk avoidance enhances the financial performance of manufacturing firms in Nakuru County.

RECOMMENDATION

From the findings the study recommended that firms should focus on proactively avoiding high-risk scenarios in their supply chains. This could involve careful vetting of suppliers, avoiding over-reliance on single suppliers or regions prone to instability, and selecting supply chain partners with strong financial and operational track records. Firms should also engage in strategic planning to anticipate and avoid potential risks before they escalate.

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