



Building Resilient Perishable Food Supply Chains: The Role of Sourcing, Transportation and Information Management in Retailer Performance in Fako Division, Cameroon

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Abstract

Introduction: In recent years how to preserved food especially perishable food to reach the final consumers has emerged as a health global concern as perishable foods such as vegetable, meat, fish are particularly vulnerable to deterioration because of their limited shelf and sensitivity to time, temperature, and handling conditions. The main objective of this research was The Role of Sourcing, Transportation and Information Management in Retailer Performance in Fako Division in South West Region of Cameroon.

Methods: A quantitative research methodology was utilized in the study, the population of the study was perishable retailers, and a sample size of 385 participants was chosen using a non-probability sampling approach. The data source was primary data; data collection was done through self-administered questionnaires and data analysis was using ordinary least square (OLS).

Findings: The findings revealed that, sourcing strategies significantly improve retailer performance, with a coefficient of 0.3998 ($p < 0.01$), demonstrating the importance of effective and reliable sourcing practices. Similarly, information sharing has a positive and statistically significant effect, with a coefficient of 0.2193 ($p < 0.01$), indicating that timely exchange of information between suppliers and retailers can enhance operational efficiency and performance. Transportation management also exerts a positive and significant influence on retailer performance, confirming that efficient transportation is essential for maintaining the quality, availability and timely delivery of perishable products.

Novelty: This study brings these three dimensions together within a single analytical framework. More importantly, it provides context-specific empirical evidence from perishable food retailers in Fako Division, a context where perishability, transportation challenges, supply uncertainty and information gaps directly affect retailer performance. The study also contributes a practical dimension to supply-chain resilience by demonstrating how the findings can be translated into actionable measures such as supplier diversification, digital information sharing, coordinated transportation, improved handling, and cold-chain development.

Recommendations: The study recommends an integrated resilience approach in which sourcing, information sharing and transportation management are implemented simultaneously, providing perishable food retailers with the capacity to anticipate, withstand and recover from supply-chain disruptions while maintaining efficient service to consumers.

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Introduction

In recent years how to preserved food especially perishable food to reach the final consumers has emerged as a health global concern as perishable foods such as vegetable, meat, fish are particularly vulnerable to deterioration because of their limited shelf and sensitivity to time, temperature, and handling conditions (Vesković, 2025)^[42]. Unlike non-perishable products, delays

or inefficiencies at any stage of the supply chain can rapidly reduce product quality, increase food losses and undermine retailer profitability as well as achieving the Sustainable Development Goals (SDGs), in particular SDG 2 related to ending hunger, improving food security and nutrition and promoting sustainable agriculture. Hunger remains a silent emergency attracting attention mainly when large numbers of community die of hunger as results of food spoilage due inadequate farm to market roads. According to the latest State of Food Security and Nutrition in the World report (FAO 2019), more than 820 million people suffer from daily hunger and this number has been slowly increasing in the past three years. And almost 2 billion people face some form of food insecurity that is without access to safe, nutritious and sufficient food. Women, children and indigenous groups remain particularly vulnerable to hunger, which continue to rise fast in all world regions (World Health Organization, 2024)^[43].

Scholars such as Lu *et al.* (2022); indicate that between 20% to 60% of total production is lost within the food supply chain, and in China the normalized total losses of staple food, vegetables, and fruits added up to 7.9%, 27.7%, and 13.2%, respectively, of their total production. The major loss of staple food occurs at production stage, while post-harvest handling stage and distribution stage, respectively, contribute the most to vegetables and fruits losses (Lu *et al.*, 2022). In - Saharan Africa, the journey from farm to the final consumer is fraught with challenges. Across this vast continent, food supply chains are long, fragmented, and inefficient. They are also highly vulnerable to extreme weather, making food security a daily concern for millions. Even though food production in Africa has increased by 160% in the past 30 years, the food insecure population has continued to rise by 60% in the last decade alone. Today, 58% of Africans are food insecure, double the global average (Unicef, 2025; World Health Organization, 2024)^[40, 43]. The drivers of food insecurity are complex and include extreme weather and conflict, among others. But an often-overlooked aspect of the issue is something much more straightforward: transport. Poor transport connectivity, failures at critical ports and border crossings, and high trade costs create hunger zones and long food supply chains that fail to get staple products to consumers reliably.

In Cameroon regions in particular the important of resilient food supply chains has become increasingly evident because food systems are exposed to a wide range of disruptions, including extreme weather events, climate change, disease outbreaks, conflicts, transport interruptions, input shortages and sudden changes in consumer demand. Such disruptions can affect the availability and movement of perishable products and create significant consequences to both consumers in term of availability and for retailers in term of profitability. When the road system is poorly link to the market retailers experienced loses during transportation, delays, reduces of qualities during handling process these affect the quantity and quality of food that reaches the market, and this reduces the operational efficiency of perishables food retailers, thus their profitability. According to Unicef (2024)^[39], the unpredictability in the supply chain has a profound effect on food prices. Transport inefficiencies contribute up to 30% of the final cost of goods, meaning that food becomes unaffordable for millions of low-income families. This often leads to an unfortunate paradox: while food is available in some regions, the cost of getting it from

one place to another is so high that many cannot afford it.

Low profit retailers of perishable food are intensifying as result of poor sourcing and limited transportation, global hunger and food insecurity remains especially severe in fragile and poorly connected regions because of high transport costs. In some cases, logistics account for half of the delivered price of food products. the cost of transport is a significant factor impacting food prices and food security, particularly in the world's poorest countries, where food expenses can reach 70 percent of household budgets. According to Ketzenberg *et al.* (2023)^[18] information sharing helps to improve product freshness and reduce waste, sufficiently improved product freshness is the key for both suppliers and retailers to benefit financially. Gaukler *et al.* (2023)^[14], better information may enable more profitable transport decisions, but doing so can have a negative impact on product quality at the destination.

The model of building Resilient Perishable Food Supply Chains: the Role of Sourcing, Transportation and Information Management in Retailer Performance is significant since it brings together three critical dimensions of supply-chain resilience sourcing, transportation and information management and examines their role in retailer performance. Understanding these relationships provide evidence for retailers and other supply-chain actors seeking to reduce disruptions, minimize food losses, maintain product quality and improve operational performance. It can also inform strategies for strengthening food distribution systems and improving the reliability and efficiency of perishable food markets, particularly in contexts of Cameroon in Fako division where infrastructure and logistics constraints remain significant. The current study proposed the following research-specific questions, objectives, as well as the study hypothesis, as shown below;

Research Questions

What is the effect of the sourcing strategies on Retailer Performance in Fako Division?

What is the effect of the information sharing on Retailer Performance in Fako Division?

What is the effect of the transportation management on Retailer Performance in Fako Division?

Research Objectives

To examine the effect of sourcing strategies on Retailer Performance in Fako Division

To analyze the effect of information sharing on Retailer Performance in Fako Division

To investigate the effect of transportation management on Retailer Performance in Fako Division

Literature Review

Supply Chain of Perishable Food

The agricultural supply chain for perishable foods involves multiple stakeholders, including growers, processors, wholesalers, importers, exporters, retailers, and specialty stores (Fresco *et al.*, 2021; Dani, 2015)^[13, 11]. Additionally, input suppliers and logistics services are integral components of the supply chain network (Chengappa, P2018)^[10]. Unlike other supply chains, the perishable food supply chain (PFSC) is characterized by unique challenges due to uncertainties in supply, climatic variability, relatively low prices, and narrow profit margins (Osman *et al.*, 2023)^[33]. Seasonality in the production of some food items further complicates the

operations within this supply chain (Mitchell, 2025)^[24]. The configuration of a food supply chain (FSC), particularly within the context of perishable foods, is largely influenced by the location of key actors and the facilities involved in production, transformation, commercialization, and distribution (Orjuela-Castro *et al.*, 2021)^[32]. Geographic dispersion plays a crucial role in determining the flow of goods between various facilities, affecting both the efficiency and effectiveness of the entire supply chain. Given the complexity of these interdependencies, advanced modeling techniques such as simulation and optimization have been widely adopted to enhance performance metrics within perishable food supply chains (PFSC). These optimization methods enable the identification of the most strategic facility locations and optimal operational strategies, thereby improving logistics and minimizing food waste. Despite the growing body of research on food supply chains, the study of logistics in the context of perishable foods remains relatively underexplored, with limited academic literature specifically addressing the unique challenges of perishable food logistics (Akram *et al.*, 2023)^[1].

Transportation Within the Supply Chain

Transportation within the supply chain plays a pivotal role in maintaining the quality and safety of perishable goods as they move from production sites to end consumers (Pal & Kant, 2020)^[34]. In selecting transportation routes, businesses consider multiple factors, such as cost minimization, on-time delivery, and maintaining product integrity throughout the journey (Goldsby *et al.*, 2014)^[16]. For perishable goods, these considerations become even more critical due to the time-sensitive nature of the products. The logistics system must be designed not only to minimize transit time but also to provide the necessary conditions to preserve the quality of the goods, such as temperature control and efficient handling procedures (Behdani, Fan, & Bloemhof, 2019)^[6]. Effective transportation management, therefore, requires a delicate balance between operational cost-efficiency and the need for specialized handling, particularly in cold chain logistics (Nozari *et al.*, 2025)^[30].

The transportation of perishable goods is also subject to several risks beyond temperature control (Mercier *et al.*, 2017; Skawińska & Zalewski, 2022)^[23, 37]. Extended transit times, especially in international shipments or long-distance travel, introduce additional risks of delays and potential spoilage (Li, 2024). Products with short shelf lives are highly susceptible to degradation, which can be exacerbated by slow transportation speeds, poor infrastructure, or inefficient customs procedures (Olowosoke, 2022)^[31]. These delays not only impact product quality but can also undermine service agreements with clients, resulting in financial losses and damaged reputations (Cen *et al.*, 2018)^[8].

Sourcing Strategies in The Perishable Foods Industry

Sourcing strategies play a critical role in shaping the performance and sustainability of micro-entrepreneurs operating in the perishable foods industry (Piters *et al.*, 2025)^[35]. Given the short shelf life and quality sensitivity of perishable products, sourcing decisions directly affect product freshness, availability, and overall supply chain efficiency. Strategic sourcing involves the systematic evaluation and selection of suppliers, negotiation of terms, continuous performance monitoring, and relationship management to ensure reliable and consistent supply

(Vellema, Schouten & Knorringa, 2023)^[41]. For micro-entrepreneurs, sourcing is often constrained by limited bargaining power and financial resources, making the choice of suppliers and sourcing arrangements a decisive factor in business survival and competitiveness.

Strategic sourcing enables micro-entrepreneurs to build long-term relationships with suppliers that offer reliability, flexibility, and favourable terms (Alshebami, 2026)^[2]. When effectively implemented, these relationships can reduce uncertainty in supply, improve product quality, and lower transaction costs (Bhatia *et al.*, 2024)^[7]. In the perishable foods sector, trust-based relationships are particularly important, as timely delivery and adherence to quality standards are essential to prevent spoilage. Moreover, strong supplier relationships can allow micro-entrepreneurs to access informal credit, smaller batch orders, or priority deliveries, which are vital in managing fluctuating demand and limited storage capacity.

Despite the documented benefits of strategic sourcing, its application in perishable product supply chains particularly among micro-entrepreneurs remains relatively underdeveloped. Existing research indicates that many small-scale operators rely on informal sourcing arrangements and short-term purchasing decisions rather than structured sourcing strategies (Mkhabela, 2025)^[25]. This limits their ability to fully exploit the advantages of strategic sourcing, such as cost savings, supply stability, and responsiveness to market changes. Strengthening sourcing capabilities through training, cooperative purchasing, and policy support could significantly enhance the resilience and performance of micro-entrepreneurs in the perishable foods industry.

Information Flow

Information sharing is vital to the supply chain because the dissemination of accurate, timely, adequate, credible and operational data is needed in order to improve both product and material flows in the supply chain (Gebisa, 2023)^[15]. Constraints to information sharing which include low level of information quality and incompatibility of information systems reduce the potential positive impact of information sharing on the effectiveness of supply chain integration (Le *et al.*, 2025). Information sharing is enabled by IT through facilitating the transmission of real time relevant operational information. Supplier relationships which are long-term positively affect performance directly and indirectly through information sharing (Namagembe & Mbago, 2023)^[28].

Effective verbal communication and visibility across the supply chain are essential for risk management and quality guarantee (Tse & Tan, 2012)^[38], this includes clear communication of product specifications, management instructions, and delivery schedules among all stakeholders within the transportation chain. Unfortunately, there is still a lack of integration and coordination among individual actors within the delivery chain. Inadequate data sharing and collaboration between producers, shippers, companies, and consumers can cause miscommunication, delays, and errors, thereby increasing the risk of quality deterioration and compromised transport timelines (Mogale *et al.*, 2025)^[26].

Retailers Performance of Perishable Food

Retailer performance refers to the extent to which perishable food retailers achieve their operational and business objectives while maintaining the availability, quality and timely delivery of products to customers (Sharma *et al.*, 2022;

Marques, Jorge, & Reis, 2022)^[36, 22]. Retailers are widely recognized as the smallest category of business organizations, distinguished by limited capital investment, small workforce size, and localized market operations (Baldivia & Chowdhury, 2024)^[4], micro enterprises are firms that typically employ fewer than ten people and operate with modest financial resources, often serving niche or local markets. These enterprises are usually owner-managed, with decision-making concentrated in the hands of the entrepreneur, allowing for flexibility but also exposing the firm to significant operational risks. The small scale of operations often limits access to formal financing, advanced technologies, and structured management systems. In this study, retailer performance was assessed through indicators such as sales performance, operational efficiency, customer satisfaction, product availability, reduction in spoilage and the ability to respond to changes and disruptions in supply and demand.

Empirical Review

Nitayaphra *et al.* (2025)^[29], investigates the factors influencing the selection of transportation routes for agricultural products, specifically fruits, from Thailand to China, utilizing multiple regression analysis. Data was gathered through a comprehensive literature review on agricultural transportation route selection and empirical data from actual transportation routes. A systematic analytical framework was developed to identify and evaluate key influencing factors. The multiple regression analysis identified nine critical factors affecting route selection. The model demonstrated strong explanatory power, with an R^2 value of 0.77319, indicating a high capacity to explain the variance in route selection. Among these, eight factors significantly impacted decision-making: transportation time, cost, distance, road conditions, road surface quality/type, infrastructure/road width, route characteristics, and available facilities. It emphasizes the most influential factors, guiding the development of strategies to optimize route selection and improve overall logistics performance.

Muhalia *et al.* (2021)^[27] determine the effect of transportation management systems on supply chain performance of FMCG in Kenya. The study adopted descriptive research design. The unit of observation was the operations manager of the 51 FMCG manufacturers located in Nairobi. The sampling frame of the current study consisted of operations managers in the manufacturers of the FMCGs in Nairobi. The study used the census method to select 51 manufacturers of the FMCGs in Nairobi; thus, the sample of the study was 51 respondents. Primary data was used in the study. The study used questionnaires to collect data. Mixed methods technique of analyzing data was used where both descriptive and inferential analysis were used. The data collected from the field was analyzed using SPSS 23 program. The questionnaires were referenced and the items in them coded for easier data entry. The study found that transport management systems positively and significantly influence Supply chain performance of FMCG in Kenya.

Kamau and Njeru (2025)^[17], assess the effect of strategic sourcing on the performance of selected food manufacturing firms in Kiambu County, Kenya. It focused on finding out how firm performance is related to supplier collaboration, networking, assessing suppliers and deciding which suppliers to select. The study relied on descriptive research design. The sample group included 191 employees from 29 chosen food

manufacturing businesses and 20 distribution outlets in Kiambu County. A census approach was needed because the study involved only a relatively small number of participants. The main data were gathered by giving participants structured questionnaires. The information was put into SPSS version 25 to be processed and analyzed. Frequencies, percentages, means and standard deviations were all used to explain and summarize the findings reveal that strategic sourcing practices are widely adopted, as indicated by the overall mean of 4.02 and standard deviation of 0.79, suggesting strong agreement among respondents and a positive impact on firm performance. Because of these practices, the results of the firms improved greatly. According to findings, following a deliberate sourcing strategy, set by managers, helped to make food manufacturing in Kiambu County more efficient and competitive.

Chebichii *et al.* (2021)^[9] looked at how cooperation between buyers and suppliers influenced the performance of businesses in the Kenyan food and beverage sector. The aim was to find out how partnerships between buyers and suppliers impact company operations and the final results of the firm. There were 120 managers surveyed within the food and beverage manufacturing businesses of Kenya. Research using numbers found that partnering with suppliers made process times shorter, boosted production performance and resulted in products of better quality. It was stated that successful cooperation between buyers and sellers helps the food manufacturing industry stay on its feet and stay in competition.

Beginkulov and Darr (2023)^[5], explores the conceptual underpinning and evolution of the scaling concept by analyzing relevant conceptual and empirical journal articles. Second, the paper identifies and systematizes the key scaling strategies, drivers and mechanisms implemented by agri-food SMEs by reviewing published business case studies. The study's findings reveal that agri-food SMEs primarily utilize vertical scaling up, which is achieved through establishing partnership relations, collaboration and integration mechanisms. Horizontal scaling out is another frequently used strategy accomplished via market demand stimulation, product diversification and geographic expansion. In contrast, scaling deep is the least frequently used strategy, which is achieved through transformative learning and cultural mechanisms.

Ateş and Memiş (2021)^[3] studied how strategic purchasing affects the impact of supply base complexity (SBC) on purchasing performance in a group of 209 top Turkish firms. The analysis suggested that purchasing decisions by companies played a role in improving their relations with suppliers and involving other companies which also influenced risks related to deliveries and switches between suppliers. Yet, despite using strategic purchasing, the organization's results were hurt by the high level of complexity around them. According to research, using good buying strategies, companies can manage how their supply chains are arranged and continue to advance these strategies as time goes on.

Methodology

Research Design

The study was conducted utilizing a quantitative technique that included data collection from a sample of participants using questionnaires, resulting in hypothesis testing. The

research group included retailers of perishable food in Fako Division. The selection of 385 participants was done using a convenient sampling technique. In this study, the convenience sampling technique was used since the sample was conveniently available throughout the research period which facilitated quick data collection. The data for this study were obtained from primary sources. Researchers utilize primary sources to acquire a complete understanding of the ject matter, using structured self-completed questionnaires that include all the key variables of the research. Closed-ended questions employing Likert scale items in the questionnaire.

Validation Instruments

Validity and reliability are the two fundamental components of any study to validate the instruments used for the study. This is to have that credibility, trustworthiness, truth, value, applicability and consistency when talking about criteria for

the assessment of the scientific quality of quantitative research.

Validity Test

The last, and most crucial, test of a case study is to show that the case study activities (data collection, procedures) are repeatable and provide the same findings for the validity of the instrument. The questionnaire was pre-tested on a much smaller sample so as to evaluate its validity to see whether the respondents could access questions on the instruments.

Reliability Test

The Cronbach's Alpha coefficient with a threshold of 0.70 considered acceptable for internal consistency of the instruments used and all the Cronbach's Alpha coefficients of the variables under study was above acceptable threshold of 0.70 confirming the reliability of the instruments used for the current study.

Table 1: Scale per Variable

Variable	Reliability Statistics	
	Cronbach's Alpha	Number of items
Retailers' performance	0.774	4
Transport management	0.703	4
Sourcing strategies	0.741	4
Information sharing	0.746	4

Model Specification

In the context of the current study on The Role of Sourcing, Transportation and Information Management in Retailer Performance, the model specification depended on the specific research questions and the type of analysis to conduct. This study is articulated around a single model as shown in the equations below.

$$\text{Retailer performance} = \beta_0 + f(\text{perishable Food supply chain}) + \varepsilon \dots \dots \dots \text{equation1}$$

Where β_0 represents the intercept, and ε represents the error term. The regression analysis aimed to estimate the Role of Sourcing, Transportation and Information Management in Retailer Performance in Fako Division.

$$Y_t = \beta_0 + \beta_1 SS_1 + \beta_2 INFS_2 + \beta_3 TPM_3 + \varepsilon \dots \dots \dots \text{equation 2}$$

Where: Y stands for RETAILER Performance; SS stands for Sourcing strategies; INFS represent Information strategies; TPM stands for Transportation management. The β_0 is a constant term, and β_1 to β_3 are estimated parameters in the model, and ε_t is an error term. The a priori expectation: $\beta_0 > 0$, $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 > 0$. The regression analysis coefficients showed the effect (positive or negative) of the independent variables on the dependent variable.

Estimation Technique

The study used the ordinary least squares technique (OLS) to estimate the coefficients (β) and explore the significant effect of Sourcing, Transportation and Information Management in Retailer Performance in Fako Division. This technique was chosen over other techniques due to its flexibility under assumptions, and it is straightforward and easy to interpret.

Validation of Estimation Technique

Test for Multicollinearity

Multicollinearity is the correlation between independent variables when a high correlation is found between two or more predictor variables and this was validated as the variables did not experience any collinearity among them with a variance Inflation Factor (VIF) of 1.15 which was well below the acceptable threshold of 5 to 10

Heteroscedasticity Test

The presence of heteroscedasticity violates the unbiased property of OLS, jeopardizing the consistency of the computed parameter. The consequence is that the existence of the heteroscedasticity in the OLS estimation would lead to a false and unreliable success. Heteroscedasticity test The Breusch-Pagan/Cook-Weisberg test, is used in this study to test for heteroscedasticity and the current study revealed the absent of heteroscedasticity.

Ethical Consideration

Ethical considerations of voluntary participation, informed consent and confidentiality have been properly addressed in this study. These concerns were dealt with enough to enhance the chances of getting honest replies from respondents, and hence more reliable data. Ethical considerations were included in each and every step of data collection of the investigation. During the development of the instruments for data collection, the researchers ensured that the questions asked, the language used, the length of the questionnaire and the duration of the questionnaire were all adequate and acceptable to the respondents. Each questionnaire included a cover letter describing the aim of the study, so that the responder may decide whether or not to participate. The privacy of respondents was assured, since no identity was required on the questionnaire.

Results

Table 2: Demographic information

Items	Categories	Frequency	Percentage (%)
Gender	Male	171	44.4
	Female	214	55.6
Marital status	Single	161	41.8
	Married	224	58.2
Level of education	No education	64	16.6
	Primary	96	24.9
	Secondary	165	42.9
	Tertiary	60	15.6

Findings reveal that the demographic characteristics of respondents involved in coping with supply chain challenges of perishable food items in the Fako division in South West Region of Cameroon show notable patterns that have implications for distribution and operational dynamics among bayam sellam retailers. The results indicate that females constitute the majority with 214 respondents (55.6%) compared to 171 males (44.4%), suggesting that women dominate the informal perishable food supply chain, which may influence decision-making styles, risk management approaches, and adaptability to supply disruptions. In terms of marital status, 224 respondents (58.2%) are married while

161 (41.8%) are single, implying that most participants may have household responsibilities that could affect their responsiveness to supply chain uncertainties and income stability needs. Regarding educational level, a significant proportion of respondents attained secondary education (165; 42.9%), followed by primary education (96; 24.9%), while only 60 (15.6%) reached tertiary level and 64 (16.6%) have no formal education; this variation suggests moderate literacy levels which may influence the adoption of modern supply chain practices, record keeping, and responsiveness to market information.

Table 3: Descriptive Statistics

Variable	Obs	Mean	Std. dev.	Min	Max
Retailer performance Index	385	.5946054	.205475	0	1
Transportation Management Index	385	.5265306	.1968976	0	1
Sourcing strategies Index	385	.1872927	.0728714	0	1
Information sharing Index	385	.6015584	.2277555	0	1

The descriptive statistics indicate that retailer performance was relatively high, with a mean index of 0.595. Information sharing recorded the highest mean of 0.602, suggesting that retailers relatively frequently engage in information-sharing practices. Transportation management had a moderate mean of 0.527, while sourcing strategies recorded the lowest mean of 0.187, indicating limited adoption of effective sourcing

practices. The standard deviations show some variation across the indices, particularly for information sharing (0.228), the findings suggest that information sharing and transportation management are relatively stronger practices, whereas sourcing strategies remain a major area for improvement.

Table 4: Pairwise Correlation Coefficients

Variables	Retailers' performance	Transportation management	Sourcing Strategies	Information sharing
Retailers' performance	1.0000			
Transportation management	0.5866	1.0000		
Sourcing strategies	0.3314	0.2667	1.0000	
Information sharing	0.4476	0.3591	0.2737	1.0000

The correlation results show a moderate positive relationship between sourcing and transportation management ($r = 0.5866$), indicating that better sourcing practices tend to be associated with better transportation management. Sourcing also has a weak-to-moderate positive relationship with information sharing ($r = 0.4476$) and a weaker relationship with the sourcing-related index ($r = 0.3314$). Transportation management is positively related to information sharing ($r = 0.3591$) and sourcing strategies ($r = 0.2667$), while sourcing strategies and information sharing have a weak positive correlation ($r = 0.2737$). Overall, all variables are positively correlated, with none showing an excessively high correlation that would immediately suggest serious multicollinearity concerns.

The Role of Sourcing, Transportation and Information Management in Retailer Performance

Table 5 shows that the model explains 42.65% of the variation in retailer performance ($R^2 = 0.4265$), while the overall model is statistically significant ($p < 0.001$). The Breusch–Pagan test is significant ($\chi^2 = 10.09$; $p = 0.0015$), indicating the presence of heteroscedasticity, for which robust standard errors were therefore appropriate. The mean VIF of 1.17 indicates very low multicollinearity among the explanatory variables. Overall, the results suggest that sourcing strategies, transportation management and information sharing jointly have a significant influence on retailer performance, although other factors outside the model account for the remaining 57.35% of the variation.

Table 5: Robust OLS result of the the Role of Sourcing, Transportation and Information Management in Retailer Performance of perishable Food in Fako Division

Variables	(1) Retailers' performance
Sourcing strategies index	.3998104*** (.1045528)
Information sharing index	.2192553*** (.1146693)
Transportation management index	.4816219*** (.0437168)
Constant	.1342403*** (.0321161)
Observations	385
R-squared	0.4265
P > F (overall significance)	0.0000
Breusch Pagan Chi 2	10.09
Breusch Pagan P-value	0.0015
Mean VIF	1.17

Note: (Robust) Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

The findings demonstrated a favorable correlation between sourcing strategies and retailer performance among perishable food retailers in Fako Division in South West Region of Cameroon. This implies that is likelihood that an increase in sourcing strategies of perishable food retailer their performance increase by 0.3998104 unit point all things being equal and the finding was statistically significant at 1% level of significance since the P value was less than critical value of 0.01 as a result, we rejected the null hypothesis (Ho1) and accept the alternative hypothesis (H1) leading to the conclusion that a sourcing strategies has a substantial role in affecting the retailer performance among perishable food retailers in Fako Division in South West Region of Cameroon all thing being equal. This implies that there is a probability that an increase in sourcing strategies will lead to a favorable change in customer purchasing behavior by 0.3998104 points. Therefore, for policy recommendations sourcing strategies should be given special consideration.

The findings demonstrated a favorable correlation between information sharing and retailer performance among perishable food retailers in Fako Division in South West Region of Cameroon. This implies that is likelihood that an increase in sourcing strategies of perishable food retailer their performance increase by 0.2192553 unit point all things being equal and the finding was statistically significant at 1% level of significance since the P value of 0.0000 was less than critical value of 0.01 as a result, we rejected the null hypothesis (Ho1) and accept the alternative hypothesis (H1) leading to the conclusion that an information sharing has a substantial role in affecting the retailer performance among perishable food retailers in Fako Division in South West Region of Cameroon all thing being equal. This implies that there is a probability that an increase in information sharing between suppliers and retailers lead to a favorable change in retailers' operational efficiency by 0.2192553 points. Therefore, for policy recommendations information sharing should be given special attention.

The findings show a favorable effect between transportation management and retailer performance among perishable food retailers in Fako Division in South West Region of Cameroon. This implies that is likelihood that an increase in transportation management of perishable food retailer their performance increase by .3998104 unit point all things being equal and the finding was statistically significant at 1% level

of significance since the P value was less than critical value of 0.01 as a result, we rejected the null hypothesis (Ho1) and accept the alternative hypothesis (H1) leading to the conclusion that a transportation management has a substantial role in affecting the retailer performance among perishable food retailers in Fako Division in South West Region of Cameroon all thing being equal. This implies that there is a probability that an increase in transportation management will lead to a favorable change in retailer performance by 0.3998104 points. Therefore, for policy recommendations 0.4816219 should be given special consideration.

Discussion of Results

The findings revealed that sourcing strategies has a significant effect on retailer performance among perishable food retailers in Fako Division in South West Region of Cameroon. This implies that is likelihood that an increase in sourcing strategies of perishable food retailer their performance increase by 0.3998104 unit point all things being equal and the finding was statistically significant at 1% level of significance. The finding was inline with work of Kamau and Njeru (2025) ^[17], findings reveal that strategic sourcing practices are widely adopted, as indicated by the overall mean of 4.02 and standard deviation of 0.79, suggesting strong agreement among respondents and a positive impact on firm performance, and their further show that, a deliberate sourcing strategy, set by managers, helped to make food manufacturing in Kiambu County more efficient and competitive.

The findings demonstrated a favorable correlation between information sharing and retailer performance among perishable food retailers in Fako Division in South West Region of Cameroon. This implies that is likelihood that an increase in sourcing strategies of perishable food retailer their performance increase by 0.2192553 unit point all things being equal and the finding was statistically significant at 1% level of significance since the P value of 0.0000 was less than critical value of 0.01. the finding was similar to the work of Chebichii *et al.* (2021) ^[9] looked at how cooperation between buyers and suppliers influenced the performance of businesses in the Kenyan food and beverage sector. Their findings revealed that partnering with suppliers made process times shorter, boosted production performance and resulted in products of better quality. It was stated that successful cooperation between buyers and sellers helps the food manufacturing industry stay on its feet and stay in competition.

The findings show a favorable effect between transportation management and retailer performance among perishable food retailers in Fako Division in South West Region of Cameroon. This implies that is likelihood that an increase in transportation management of perishable food retailer their performance increase by .3998104 unit point all things being equal and the finding was statistically significant at 1% level of significance since the P value was less than critical value of 0.01. the finding was consistent with result of Nitayaprapha *et al.* (2025) ^[29], their finding shows that transportation time, cost, distance, road conditions, road surface quality/type, infrastructure/road width improve overall logistics performance.

Conclusion

The study concludes that sourcing strategies, information sharing, and transportation management all play significant

and positive roles in the performance of perishable food retailers in Fako -Division, South West Region of Cameroon. Sourcing strategies significantly improve retailer performance, demonstrating the importance of effective and reliable sourcing practices. Similarly, information sharing has a positive and statistically significant effect, indicating that timely exchange of information between suppliers and retailers can enhance operational efficiency and performance. Transportation management also exerts a positive and significant influence on retailer performance, confirming that efficient transportation is essential for maintaining the quality, availability and timely delivery of perishable products. From a policy perspective, these findings should be translated into practical supply-chain interventions rather than remaining at the level of policy formulation. First, retailers should be encouraged to diversify their suppliers and establish reliable relationships with farmers, wholesalers and producer cooperatives, thereby reducing dependence on a single source during periods of supply disruption. This can be implemented through supplier networks, framework agreements and regular assessment of suppliers based on reliability, quality and timely delivery. Second, information sharing can be strengthened through simple digital communication platforms such as WhatsApp groups, mobile-based ordering systems and shared price and demand information, enabling retailers and suppliers to communicate stock levels, expected demand, prices, delivery schedules and potential supply disruptions in real time. Third, transportation resilience can be improved through collective transportation arrangements, scheduled delivery systems, improved loading and handling practices, and investment in appropriate storage and cold-chain facilities where required. Retailers can also collaborate to share transportation costs, particularly for small quantities of perishable products. In practical terms, local authorities, retailer associations, farmer organizations and other supply-chain stakeholders should work together to establish coordinated sourcing, information-sharing and transportation mechanisms. Training programmes should be provided to retailers on supplier diversification, inventory management, digital information management, proper handling and transportation of perishables. Such interventions would help reduce spoilage and stock-outs, improve product availability and quality, reduce unnecessary logistics costs and ultimately enhance retailer performance. Therefore, the study recommends an integrated resilience approach in which sourcing, information sharing and transportation management are implemented simultaneously, providing perishable food retailers with the capacity to anticipate, withstand and recover from supply-chain disruptions while maintaining efficient service to consumers.

References

1. Akram HW, Akhtar S, Ahmad A, Anwar I, Sulaiman MABA. Developing a conceptual framework model for effective perishable food cold-supply-chain management based on structured literature review. *Sustainability*. 2023;15(6):4907.
2. Alshebami AS. Entrepreneurial bricolage, local supply network strength, and service agility in relation to continuity of serving customers in micro and small enterprises. *Adm Sci*. 2026;16(8):373.
3. Ateş MA, Memiş H. Embracing supply base complexity: the contingency role of strategic purchasing. *Int J Oper Prod Manag*. 2021;41(6):830-859.
4. Baldivia M, Chowdhury S. Adapting business models in the age of omnichannel transformation: evidence from the small retail businesses in Australia. *J Theor Appl Electron Commer Res*. 2024;20(1):1.
5. Begimkulov E, Darr D. Scaling strategies and mechanisms in small and medium enterprises in the agri-food sector: a systematic literature review. *Front Sustain Food Syst*. 2023;7:1169948.
6. Behdani B, Fan Y, Bloemhof JM. Cool chain and temperature-controlled transport: an overview of concepts, challenges, and technologies. In: *Sustainable Food Supply Chains*. 2019. p.167-183.
7. Bhatia MS, Chaudhuri A, Kayikci Y, Treiblmaier H. Implementation of blockchain-enabled supply chain finance solutions in the agricultural commodity supply chain: a transaction cost economics perspective. *Prod Plan Control*. 2024;35(12):1353-1367.
8. Cen L, Chen F, Hou Y, Richardson GD. Strategic disclosures of litigation loss contingencies when customer-supplier relationships are at risk. *Account Rev*. 2018;93(2):137-159.
9. Chebichii BD, Namusonge G, Nambuswa E. Influence of buyer-supplier collaboration on organizational performance in food and beverage manufacturing companies in Kenya. *Int J Sci Res Publ*. 2021;11(11):85-100.
10. Chengappa PG. Development of agriculture value chains as a strategy for enhancing farmers' income. *Agric Econ Res Rev*. 2018;31(1):1-12.
11. Dani S. Food supply chain management and logistics: from farm to fork. London: Kogan Page Publishers; 2015.
12. Food and Agriculture Organization. The state of food security and nutrition in the world 2019. Rome: FAO; 2019.
13. Fresco LO, Geerling-Eiff F, Hoes AC, van Wassenae L, Poppe KJ, van der Vorst JG. Sustainable food systems: do agricultural economists have a role? *Eur Rev Agric Econ*. 2021;48(4):694-718.
14. Gaukler GM, Zuidwijk RA, Ketzenberg ME. The value of time and temperature history information for the distribution of perishables. *Eur J Oper Res*. 2023;310(2):627-639. doi:10.1016/j.ejor.2023.03.006.
15. Gebisa D. The impact of information sharing and inventory management practices on firms' performance in supply chain practices. *Gadjah Mada Int J Bus*. 2023;25(2):199-225.
16. Goldsby TJ, Iyengar D, Rao S. The definitive guide to transportation: principles, strategies, and decisions for the effective flow of goods and services. Boston: Pearson Education; 2014.
17. Kamau JK, Njeru P. Strategic sourcing on the performance of selected food manufacturing firms in Kiambu County, Kenya. *Afr J Empir Res*. 2025;6(3):90-96.
18. Ketzenberg M, Oliva R, Wang Y, Webster S. Retailer inventory data sharing in a fresh product supply chain. *Eur J Oper Res*. 2023;307(2):680-693. doi:10.1016/j.ejor.2022.08.043.
19. Le TT, Nhu QPV, Behl A. Role of digital supply chain in promoting sustainable supply chain performance: the mediating of supply chain integration and information sharing. *Int J Logist Manag*. 2025;36(5):1439-1462.
20. Li X. Research on banana cold chain transportation

- network and route optimization based on transportation time and cargo loss constraints. 2024.
21. Lu S, Cheng G, Li T, Xue L, Liu X, Huang J, *et al.* Quantifying supply chain food loss in China with primary data: a large-scale, field-survey based analysis for staple food, vegetables, and fruits. *Resour Conserv Recycl.* 2022;177:106006.
 22. Marques PA, Jorge D, Reis J. Using lean to improve operational performance in a retail store and e-commerce service: a Portuguese case study. *Sustainability.* 2022;14(10):5913.
 23. Mercier S, Villeneuve S, Mondor M, Uysal I. Time-temperature management along the food cold chain: a review of recent developments. *Compr Rev Food Sci Food Saf.* 2017;16(4):647-667.
 24. Mitchell E. Supply chain innovations for seasonal adaptability in the Italian restaurant industry. SSRN. 2025. Report No.: 5136962.
 25. Mkhabela V. The implications of lead firm sourcing strategies and value chain governance on suppliers and sector development: the case of the South African textile and apparel industry. 2025.
 26. Mogale DG, Xian D, Sanchez Rodrigues V. Managing logistics risks in pharmaceutical supply chain: a 4PL perspective. *Prod Plan Control.* 2025;36(10):1414-1429.
 27. Muhalia EJ, Ngugi PK, Moronge M. Effect of transportation management systems on supply chain performance of FMCG in Kenya. *Am J Supply Chain Manag.* 2021;6(1):1-12.
 28. Namagembe S, Mbago M. Small and medium enterprise agro-processing firms supply chain performance: the role of owner-manager's managerial competencies, information sharing and information quality. *Mod Supply Chain Res Appl.* 2023;5(4):265-288.
 29. Nitayaprapha T, Pochan J, Panichakarn B, Kulthunyahirun S. Analysis of factors influencing the selection of road transportation routes for agricultural fruit exports from Thailand to China: a policy perspective. *Pak J Life Soc Sci.* 2025;23(1):8286.
 30. Nozari H, Rahmaty M, Foukolaei PZ, Movahed H, Bayanati M. Optimizing cold chain logistics with Artificial Intelligence of Things (AIoT): a model for reducing operational and transportation costs. *Future Transp.* 2025;5(1):1.
 31. Olowosoke CB. Indiscriminate food insecurity: road transportation management contribution in low/middle income economy. *Int J Res Publ Rev.* 2022;3:7421.
 32. Orjuela Castro JA, Orejuela-Cabrera JP, Adarme-Jaimes W. Logistics network configuration for seasonal perishable food supply chains. *J Ind Eng Manag.* 2021;14(2):135-151.
 33. Osman SA, Xu C, Akufu M, Paul ER. Perishable food supply chain management: challenges and the way forward. *Open J Soc Sci.* 2023;11(7):349-364.
 34. Pal A, Kant K. Smart sensing, communication, and control in perishable food supply chain. *ACM Trans Sens Netw.* 2020;16(1):1-41.
 35. Pipers BDS, Termeer E, Dijkxhoorn Y, van Berkum S, Ruben R. Enabling midstream actors in the informal economy to enhance food system outcomes. *J Dev Entrep.* 2025;30(1):2550006.
 36. Sharma M, Alkatheeri H, Jabeen F, Sehrawat R. Impact of COVID-19 pandemic on perishable food supply chain management: a contingent resource-based view (RBV) perspective. *Int J Logist Manag.* 2022;33(3):796-817.
 37. Skawińska E, Zalewski RI. Economic impact of temperature control during food transportation—a COVID-19 perspective. *Foods.* 2022;11(3):467.
 38. Tse YK, Tan KH. Managing product quality risk and visibility in multi-layer supply chain. *Int J Prod Econ.* 2012;139(1):49-57.
 39. UNICEF. The state of food security and nutrition in the world 2024: financing to end hunger, food insecurity and malnutrition in all its forms. 2024.
 40. UNICEF. The state of food security and nutrition in the world 2025: addressing high food price inflation for food security and nutrition. Rome: Food and Agriculture Organization; 2025.
 41. Vellema S, Schouten G, Knorringa P. Connecting the concepts of frugality and inclusion to appraise business practices in systems of food provisioning: a Kenyan case study. *J Agric Environ Ethics.* 2023;36(3):16.
 42. Vesković S. In the global food system: addressing food losses, waste, and safety. In: *Natural food preservation: controlling loss, advancing safety.* Cham: Springer Nature Switzerland; 2025. p.5-58. doi:10.1007/978-3-031-85089-9_2.
 43. World Health Organization. The state of food security and nutrition in the world 2024: financing to end hunger, food insecurity and malnutrition in all its forms. Vol. 2024. Rome: Food and Agriculture Organization; 2024.

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