

THE EFFECT OF MATERIAL SUPPLY INNOVATION STRATEGIES ON THE PERFORMANCE OF MANUFACTURING FIRMS IN MALAWI

Gilbert Nyanjagha

PhD Student: Malawi University of Business and Applied Sciences (MUBAS)
Corresponding Author's email: gilbertnyanjagha@yahoo.com

Associate Professor Rhoda Bakuwa, PhD

Senior Lecturer: Malawi University of Business and Applied Sciences (MUBAS)

Dr Kizito Kanyoma, PhD

Senior Lecturer: Malawi University of Business and Applied Sciences (MUBAS)

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Abstract: The purpose of this study was to investigate the effect of material supply innovation strategies on the performance of manufacturing firms in Malawi. Descripto-explanatory research design was used. The study used a stratified random sampling technique to draw a sample of 197 manufacturing firms from a population of 388 licensed and registered manufacturing firms. Structured questionnaires were used to collect primary data from the owners and managers of manufacturing firms. Data analysis was conducted using SPSS software program version 28.0. Both descriptive and inferential statistical analyses were used to analyse the data. In the descriptive statistical analysis, frequencies, percentages, mean scores and standard deviation were used. In the inferential statistical analysis, the study used linear regression to examine the effect of material supply innovation strategies on the performance of manufacturing firms in Malawi. The study found that material supply innovation strategies had positive and significant effect on the performance of manufacturing firms in Malawi. Manufacturing firms which implemented material supply innovation strategies registered a greater performance in terms of sales growth than the manufacturing firms which did not implement material supply innovation strategies. The study recommends that manufacturing firms should implement material supply innovation strategies to increase their performance. Material supply innovation strategies can help manufacturing firms to increase efficiency of acquiring materials, source low-cost materials, acquire high quality raw materials and gain competitive advantage by having a unique access to raw materials and suppliers with an effective system.

Keywords: Innovation, material supply innovation strategies, performance, manufacturing firms.

1.1 INTRODUCTION

Manufacturing plays a fundamental role in driving the economies by creating jobs, incomes, innovations and multiplier effects which in turn ignite other parts of the economy as observed by United Nations Industrial Development Organization (UNIDO, 2024). Manufacturing also contributes to the economic growth of many countries through improving the balance of trade by processing goods for export (UNIDO, 2024). Manufacturing sector contributes substantially to the gross domestic product (GDP) and exports of developed countries. For instance, in 2023, the sector contributed 15 % to the GDP of developed countries and 67 % to the exports of developed countries (World Bank, 2025). Similarly, in Sub-Saharan Africa, the manufacturing sector positively contributes to the economic development of the region. In 2023, for instance, manufacturing contributed 11 % to the GDP and 22 % to the exports of Sub-Saharan Africa (World Bank, 2025). Likewise, in Malawi, manufacturing sector contributed 8 % to the country's exports in 2023 and accounted for 9 % to the GDP in the same year (World Bank, 2025).

However, developing countries such as Malawi have experienced a fluctuating growth rate in their manufacturing output since 2005 (World Bank, 2024). For example, Malawi's manufacturing sector's contribution to GDP in

2023 was 9 % and its highest value was recorded in 1992 at 19.05% (World Bank, 2024). This decline is attributed to the various challenges manufacturing firms face in their business environment. Business firms experience high levels of uncertainty due to rapid changes in operating environment and hence the need for such firms to embark on innovation to increase their performance and overcome some of the challenges they face (Kawira, 2021).

Schumpeter (1934) as cited in Langroodi (2021) defines innovation as “the introduction of a product which is new to consumers or one of higher quality than existing products, new methods of production, the opening of new markets, the use of new sources of supply and new forms of competition, that lead to the restructuring of an industry.” Thus, firms can innovate their products, production methods (processes), marketing methods, organizational methods and sources of supply. According to Schumpeter as cited by Upadhy and Rawal (2018), innovation also involves locating a new source of supply of raw material or semi-finished product that was not exploited earlier. This constitutes the basis for material supply innovation in line with Schumpeter’s definition of innovation. Thus, material supply innovation entails developing a new source of supply of raw material or sourcing material through new networks. It is part of strategic sourcing innovation. Strategic sourcing innovation involves designing and managing new supply networks in line with the organizational operational and performance objectives (Munyi, Namusonge & Simiyu, 2020). Material supply innovation involves identifying and selecting the new supplier whose costs, qualities, technologies, dependability and service best meet the organization needs. Thus, it is a way of searching new markets for potential input sources (Munyi et al., 2020). It is concerned with sourcing new or unique raw materials, ingredients, parts, or supplies.

Firm performance involves the effective and efficient use of resources to develop capabilities in order to meet the organisation’s objectives (Taouab & Issor, 2019). Firm performance can be measured in terms of return on investment (ROI), sales volume, profitability, total assets, employment size, capital employed and market share among others (Taouab et al., 2019). Among the indicators of business performance, sales growth is usually easier as compared to other indices (Taouab et al., 2019).

Malawi’s economy is characterized by low levels of industrialization. According to Malawi Confederation of Chamber of Commerce and Industry (2025), the manufacturing sector remains relatively small and underdeveloped. Many manufacturing firms in Malawi lack financial resources to innovate. As such they are less innovative and remain uncompetitive due to their low levels of investment in innovation systems and new technologies (World Bank, 2024).

Manufacturing firms in Malawi positively contribute to the economic development of the country through GDP, exports and employment generation. For instance, the manufacturing sector contributed 8 % to the country’s exports in 2023 and accounted for 9% of Malawi’s total GDP in 2023 (World Bank, 2024). However, despite this contribution, manufacturing firms in Malawi are stagnant in terms of growth and have registered dismal and fluctuating performance over the years (Mkwambisi, Muyanga, Amedie, Makocho, Lifeyo & Khomba, 2020) In fact, manufacturing annual growth rate has declined from 7.6 % in 2019 to 0.8% in 2024 (Reserve Bank of Malawi, 2025). Manufacturing sector’s contribution to GDP has also been fluctuating and has declined from 19.05% in 1992 to 9 % in 2023 (World Bank, 2025).

Manufacturing production in Malawi has considerably fallen as evidenced from the closing down of several manufacturing firms in the last decade citing lack of profitability on account of high costs of operations (Malawi Government, 2021). The decline in manufacturing production and the dismal performance of manufacturing firms are attributed to challenges these firms face such as high cost of finance, high tax rates, volatile macroeconomic environment, limited technology and stiff competition (MCCCI, 2025). As such, manufacturing firms should innovate not only to overcome some of the challenges they face but also to survive and compete in their business environment. They need to invest in various innovation systems such as material supply innovation. Almost all the literature on innovation have looked at innovation mainly from the output perspective and not input perspective. In other words, they have focused on the innovation outputs such as product innovation, process innovation, market innovation and organizational innovation and how these innovation types affect firm performance. The innovation inputs such as the material supply innovation have not been given an attention; hence the need for this study. The current study investigated the effect of material supply innovation strategies on the performance of manufacturing firms in Malawi. The main objective of this study was, therefore, to investigate the effect of material supply innovation strategies on the financial performance of manufacturing firms in Malawi.

2.0 LITERATURE REVIEW

2.1 Schumpeterian Theory of Innovation

The Schumpeterian theory of innovation posits that entrepreneurship involves combining resources in a new way such as introducing new products, new method of production, new organization and new source of raw materials (Sledzik, 2020). Thus, innovation occurs when the entrepreneur introduces a new organization into the industry, introduces a new product or a new production system, open a new market or discover a new source of raw materials (Langroodi, 2021). In other words, innovators carry out new combinations of factors of production and introduce new organizations, new products, new processes, new markets and new sources of materials.

According to Schumpeterian theory, innovation entails the process of “creative destruction” which creates wealth through the disruption of existing firms by the introduction of new organizations, new products, new processes, new markets or new sources of materials (Langroodi, 2021). Creative destruction entails industrial mutation in which organizations revolutionize the economic structure from within, by destroying the old structure and creating a new one (Langroodi, 2021). In ‘creative destruction’ firms innovate by using the resources and systems to create new organizations, new products, new markets and new materials or new sources of materials. Schumpeterian theory of innovation highlights that innovation is the driver of firm growth, and profitability. Firms achieve growth by maximizing profits. Schumpeter observed that firms that need to maximize profits have to be innovative because innovation results in increased profits (Langroodi, 2021). In other words, profits are a function of innovation. Schumpeter believed that only innovation can help the organization achieve better performance and keep the organization at a comfortable position (Langroodi, 2021).

Schumpeter’s theory of innovation informs the current study of the various types of innovation that manufacturing firms can use to enhance their performance. These types of innovation include material supply innovation (new materials or new sources of materials) which is the main independent variable of this study. The theory also informs the current study of the fundamental role of innovation in firm performance. It highlights how manufacturing firms can use innovation to increase their growth and profitability.

2.2 Effect of Material Supply Innovation Strategies on Firm Performance

Almost all the literature on innovation have looked at innovation mainly from the output perspective and not input perspective. In other words, they have focused on the innovation outputs such as product innovation, process innovation, market innovation and organizational innovation. The innovation inputs such as the supply of raw materials have not been given an attention. According to Joseph Schumpeter as cited by Upadhy and Rawal (2018), innovation also involves locating a new source of supply of raw material or semi-finished product that was not exploited earlier. This constitutes the basis for material supply innovation which is an innovation input. Thus, material supply innovation entails developing a new source of supply of raw material or sourcing material through new networks. It is part of strategic sourcing innovation. Strategic sourcing innovation involves designing and managing new supply networks in line with the organizational operational and performance objectives (Munyi, Namusonge & Simiyu, 2020). Material supply innovation involves identifying and selecting the new supplier whose costs, qualities, technologies, dependability and service best meet the organization needs. Thus, it is a way of searching new markets for potential input sources (Munyi et al., 2020). It is concerned with sourcing new or unique raw materials, ingredients, parts, or supplies.

Manufacturing firms that implement material supply innovations or strategic sourcing innovations build strong and good relationships with the supplier. Such relationships lead to greater collaboration and more innovation (Koobair, Inderpal & Karodia, 2017). Thus, strategic sourcing of materials requires manufacturing firms to develop a functional partnership with a strategic supplier and such relationships can be a base of competitive advantage if companies combine resources in unique ways (Kihanya, Wafula & Onditi, 2017; Koobair et al., 2017). Strategic sourcing innovation enables manufacturing firms gain competitive advantage by having a unique access to raw materials and suppliers with an effective system (Koobair et al., 2017). Sourcing materials from new suppliers and closely working with them on product development efforts helps to make firms have an edge over other firms, hence enhancing competitive advantage.

Furthermore, strategic sourcing innovation (material supply innovation) helps to reduce costs, increase productivity and increase return on investment (Kihanya et al, 2017; Munyi et al., 2020). A firm’s strong relationship with a new strategic supplier helps to improve process efficiencies which in turn result in low cost and creates a greater value for the materials. Strategic sourcing innovation also helps to ensure timely delivery of materials. According to Kihanya et al. (2017), if goods and materials arrive late or work is not completed at the right time, sales may be lost and production halted. Such disruptions negatively affect the firm’s profitability.

Some previous studies have investigated the relationship between strategic sourcing in general and firm performance. For example, Munyi et al. (2020) conducted a study on strategic sourcing as a tool for improving firm’s performance and found that strategic sourcing positively contributes to firm performance. The finding suggests that successful implementation of strategic sourcing improves firm’s performance through adoption of multiple sourcing strategies as well as maintaining manageable supply base. Similarly, Kihanya et al. (2017) carried out a study to investigate the role of strategic sourcing on organization’s performance. The findings indicate that strategic sourcing affects organizational performance. The study observed that strategic sourcing enables the organization to concentrate on its core functions which enable the company to achieve strategic advantage and at the same time act as a means in which business conditions or problems can be reduced in a manner that is more efficient or effective (Kihanya et al, 2017).

According to Yusuf, Saka, Yisa and Yu (2024), strategic sourcing helps firms to build strong supplier relationships, supported by effective contractual agreements and feedback mechanisms which in turn enhance consistency and superior service delivery. Strategic sourcing also helps firms to efficiently adapt to changing market conditions, such as the everyday fluctuations in the cost of raw materials, thereby reducing supply disruptions and ensuring greater stability in its production (Yusuf et al., 2024). Similarly, Setiadi, Arief, Hamsal, & Abdinagoro (2024) found that strategic sourcing has a positive and significant influence on firm performance. Setiadi et al. (2024) observed that strategic sourcing enhances the firms’ efficacy, efficiency, and productivity.

The current study specifically explored the effect of material supply innovation strategies on the performance of manufacturing firms in Malawi. The relationship between material supply innovation strategies and firm performance has not been given attention in the previous studies. As such, the current study tested the following null research hypothesis:

H1: Material supply innovation strategies do not have a positive and significant effect on the financial performance of manufacturing firms in Malawi.

2.3 CONCEPTUAL FRAMEWORK

The conceptual framework which shows how the dependent variable in this study is related to the independent variable is depicted in Figure 1.

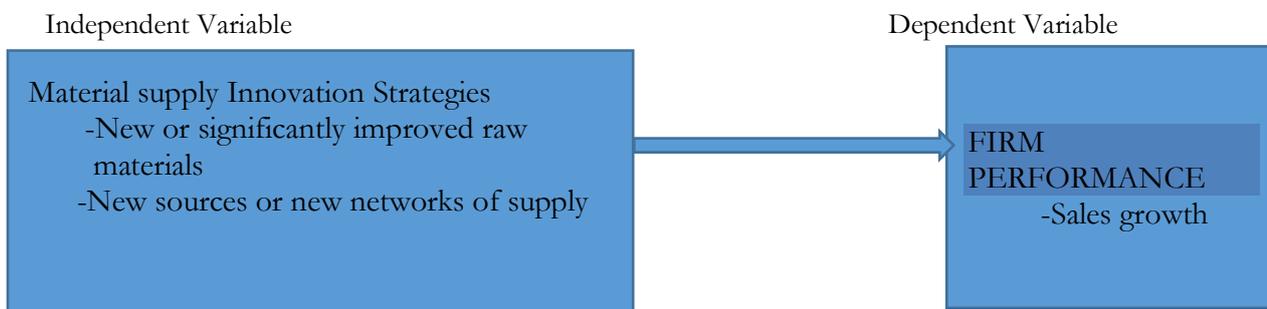


Figure 1 Conceptual Framework

The conceptual framework in Figure 1 entails material supply innovation strategies as the independent variable and firm performance (sales growth) as the dependent variable. This conceptual framework is based on the theories adopted in this study as well as the empirical literature which has been reviewed. The Schumpeterian

theory of Innovation informs this conceptual framework as it supports the material supply innovation strategies which are the independent variable of this study.

Material supply innovation strategy is concerned with developing a new raw material, a new source of supply of raw material or sourcing material through new networks. In the current study, material supply innovation entails new raw materials, a new source of raw materials or new networks for sourcing raw materials that manufacturing firms in Malawi use. Material supply innovation as a strategy was, in this study, measured as the number of material supply innovations a manufacturing firm has implemented in the five year period (2019-2024).

Firm performance (dependent variable) was in this study measured by sales growth. Sales growth was measured as a percentage change in sales growth in the five year period during which material innovation strategies were implemented. Thus, data on actual sales were collected and then percentage change was calculated for each manufacturing firm.

3.0 METHODOLOGY

This study adopted a positivism research paradigm. In a positivism paradigm, the researchers follow rigorous scientific procedures to establish knowledge (Saunders, Lewis & Thornhill 2019). According to a positivism research paradigm, social phenomenon is observable and measurable and it is based on the quantitative data (Saunders et al., 2019). A positivistic approach was used in the current study because this study investigated material supply innovation and firm performance variables which are observable and measurable.

The target population for this study was 388 manufacturing firms. Yamane (1967) formula, as cited in Adam (2020) was used in this study to calculate sample size at 95% confidence level.

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

Where n is the sample size,
N is the population size,
e is the level of precision.

$$n = \frac{388}{1 + 388 (0.05 \times 0.05)}$$

$$n = 197$$

Thus, the sample size was 197 manufacturing firms. This sample was distributed among various manufacturing subsectors. The sample was drawn from the cities of Mzuzu, Lilongwe and Blantyre. Stratified random sampling method was used to select manufacturing firms from the three cities. Stratification was carried out because manufacturing firms are heterogeneous in terms of size and the industrial activities they are involved in. Thus, manufacturing firms were stratified according to size and the nature of their industrial activities. Stratification was done to ensure that each sector has a chance of being represented in the study. Manufacturing firms were then randomly selected from each stratum to eliminate bias. Stratified sampling method was used as this technique helps to yield a more representative sample (Saunders et al., 2019).

Structured questionnaire was used to collect primary data on the manufacturing firms in Malawi. The questionnaire was self-administered. The choice of questionnaire in this study is in line with the positivism research paradigm. Questionnaire was used as the main data collection tool as it helped to reduce the researcher's bias since there was no researcher's influence on how respondents filled in the responses. The questionnaire mostly consisted of closed ended questions.

The reliability of the questionnaire was calculated using the Cronbach's alpha coefficient (Adam, 2020). This coefficient measures the internal consistency among a set of items. The current study used 0.7 as a cut-off point of

reliability since it is a recommended value (Sekaran, 2020). The Cronbach’s alpha value for the material innovation strategies variable items was 0.740 and that of the firm performance variable items was 0.760. They were all above 0.7. The researcher also got an expert opinion from the university supervisors to ensure content validity. The questionnaire was pilot tested on 20 manufacturing firms. Pilot test helped to refine the questionnaire and to obtain some assessment of the questions’ validity and reliability of the data. After pilot-testing, the questionnaires were hand delivered to the managers and owners of the sampled manufacturing firms in the cities of Blantyre, Lilongwe and Mzuzu. The questionnaires were collected after ten days.

A total of 197 questionnaires were distributed to the respondents of the sampled manufacturing firm. 158 questionnaires were returned; representing a response rate of 80.2 %. This response rate was considered very good and adequate for the statistical analysis. Any response rate above 75 % is deemed as best and appropriate for any study (Sekaran, 2020).

Descriptive statistics and inferential statistics were used to analyse the data. The study used descriptive statistics such as frequencies, percentages, sample means, standard deviation, and frequency tables. Inferential statistics were used to examine the effect of material supply innovation strategies on the financial performance of manufacturing firms. Data were analysed using the Statistical Package for Social Sciences (SPSS –Version 28.0). The study used linear regression to analyze the effect of material innovation strategies (independent variable) on firm performance (dependent variable). In the regression model, firm performance, which is the dependent variable, is represented by ‘Y’ while the material innovation strategies (the independent variable) are represented by ‘X’.

The regression model for the study is given by;

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

Where Y = Firm performance

β_0 = Constant of the equation

β_1 = Respective Regression Coefficient

X1 = Material innovation strategies

ϵ = Error term

The desired level of precision was +/- 5% and a confidence level of 95%. The decision level was ‘reject null hypothesis if P<0.05.’

4.0 RESULTS AND DISCUSSION

4.1 Firm Size

The descriptive results for the firm size show that 41.8 % (66 firms) of the manufacturing firms were small firms with 5-20 employees. 36.1 % (57 firms) of the manufacturing firms were medium sized with 21-99 employees while 22.2 % (35 firms) were large manufacturing firms (with 100 employees or more).

4.2 Nature of Material Supply Innovation

Respondents were asked to indicate the nature of material supply innovation in their manufacturing firm in terms of whether their firm embarked on material supply innovations in the five year period (2019-2024). The descriptive results (Table 1) indicate that 60.1 % of the manufacturing firms implemented material supply innovation by either using significantly improved raw materials, sourcing raw materials from a new supplier or developing new relationship with the supplier.

Table 1 Nature of Material Supply Innovation

Nature of Material Supply Innovation	Percentage
No any material supply innovation	39.9
Material supply innovations	60.1
Total	100.0

Respondents were equally asked to indicate whether the material supply innovations they implemented were new to the firm, market, country or the world. The results show that the majority (92.6 %) of the manufacturing firms that implemented material supply innovation strategies indicated that their material supply innovations were new to their firm only. Only 7.4 % of the manufacturing firms that embarked on material supply innovation strategies indicated that the material supply innovations that they implemented were new to the market. None of the manufacturing firms implemented any material supply innovation that was new to the country. Thus, most of the manufacturing firms implemented the material supply innovations that were new to the firm; meaning that most manufacturing firms in Malawi operate at a minimum level of material supply innovation.

4.3 Intensity of Material Supply Innovation

Respondents were also asked to indicate the number of material supply innovations their manufacturing firm implemented in the five year period (2019-2024). The results (Table 2) show that 32.9 % of the manufacturing firms implemented one material supply innovation while 19.6 % of the manufacturing firms implemented two material supply innovations. This suggests that many manufacturing firms in Malawi operate at a low level of material supply innovation.

Table 2 Intensity of Material supply Innovations

Number of Material Supply Innovations	Percentage
No any material supply innovation	39.9
One material supply innovation	32.9
Two material supply innovations	19.6
Three material supply innovations	7.6
Total	100.0

4.4 Material Supply Innovation strategies and Firm Performance

The descriptive results showing the extent to which material supply innovation strategies contribute to firm’s sales growth are shown in Table 3. According to Table 3, the majority (a total of 55.5 %) of the manufacturing firms that did not implement material supply innovation strategies did not register any increase in sales growth. Thus, the performance of the relatively large proportion of manufacturing firms that did not implement material supply innovation strategies declined or remained constant. In contrast, a total of 93.7 % of the manufacturing firms that implemented material supply innovation strategies registered an increase in sales growth in the five year period (2019-2024).

Table 3 Material Supply Innovation Strategies and Firm’s Sales Growth

Sales Growth in the Five Year Period (2019-2024)	Nature of Material Innovation		Total
	No any Material innovation	Material supply Innovation	
Decline	15 (23.8%)	2 (2.1%)	17
Stayed the same	20 (31.7%)	4 (4.2%)	24
1-10%	19 (30.2%)	28 (29.5%)	47
11-20%	5 (7.9%)	22 (23.2%)	27
21-30%	1 (1.6%)	24 (25.3%)	25
31-40%	3 (4.8%)	9 (9.5%)	12
Above 40%	0(0%)	6 (6.2%)	6
Total	63 (100%)	95 (100%)	158 (100%)

Thus, most of the manufacturing firms that implemented material supply innovation strategies registered an increase in the sales growth. This means that manufacturing firms that implemented material supply innovations performed better than those that did not.

4.5 Contribution of Material Supply Innovation Strategies to Sales Growth

The respondents were equally asked to indicate whether they agree or not with the statement that ‘material supply innovation strategies have helped to increase sales growth of their firms in the five year period (2019-2024).’ The results (Table 4) show that a total of 71.6 % of the respondents from manufacturing firms that implemented material supply innovation strategies agreed with the statement that material supply innovation strategies have helped to increase their sales growth.

Table 4 Contribution of Material Supply Innovation Strategies to Firm’s Sales Growth

Material Supply Innovation Strategies Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Material supply innovation strategies have helped to increase sales growth in the past five years	0%	11.6%	28.4%	43.2%	16.8%

Furthermore, the respondents were asked to indicate whether they agree or disagree with various material supply innovation strategy statements regarding how material supply innovation strategies contribute to sales growth. The results are shown in Table 5. The first material supply innovation strategy statement was that ‘material supply innovation helps the firm to increase efficiency of acquiring raw materials.’ According to Table 5, a total of 51.5 % of the respondents of manufacturing firms that implemented material supply innovation strategies indicated that material supply innovation has helped to increase the efficiency of acquiring raw materials.

Table 5 How Material Supply Innovation Strategies Contribute to Sales Growth

Material Supply Innovation strategy Statement	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation
Material supply innovation helps the firm to increase efficiency of acquiring raw materials	13.7 %	34.7 %	38.9 %	12.6 %	3.5	0.89
Material supply innovation helps the firm to reduce the costs of acquiring raw materials	7.4 %	0 %	81.1 %	11.5 %	4.0	0.64
Material supply innovation helps the firm to source high quality raw materials	6.3 %	3.2 %	78.9 %	11.6 %	4.0	0.63
Material supply innovation helps to achieve competitive advantage	11.6 %	63.2 %	22.1 %	3.2 %	3.2	0.66

The second material supply innovation strategy statement was that ‘material supply innovation helps the firm to reduce the cost of acquiring raw materials.’ The majority (a total of 82.6 %) of the respondents of manufacturing firms that implemented material supply innovation strategies indicated that material supply innovation helps the firm to reduce the cost of acquiring raw materials. The third material supply innovation strategy statement was that ‘material supply innovation helps the firm to source high quality raw materials.’ The majority (78.9 %) of the respondents of manufacturing firms that implemented material supply innovation strategies agreed with the

statement.

In short, the descriptive results suggest that material supply innovation strategies can help manufacturing firms to increase their performance through increasing the efficiency of acquiring raw materials, reducing the cost of acquiring raw materials and sourcing high quality raw materials.

4.6 Inferential Analysis

4.6.1 Coefficient of Determination

Table 6 shows that R-square is .0750. This means that material supply innovation strategies accounted for 7.5 % of the variation in the performance of manufacturing firms in Malawi. The model summary results therefore confirmed that material innovation strategies significantly affect the performance of manufacturing firms in Malawi. Although material supply innovation has a significant effect on sales growth, its explanatory power (7.5 %) is low. The low explanatory power of material supply innovation means that material supply innovation is simply one of the factors that contribute to the performance of manufacturing firms. Other factors include firm size, firm resources and other innovation types.

Table 6 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.274 ^a	.0750	.0694	1.13495

a. Predictors: (Constant), material supply innovation strategies

4.6.2 Regression Results and Discussion

The study used linear regression to test the effect of material supply innovation strategies on the performance of manufacturing firms in Malawi. Linear regression was conducted at 95 percent confidence level ($\alpha = 0.05$). The null hypothesis was that material supply innovation strategies do not have a positive significant effect on the financial performance of manufacturing firms in Malawi. The results are shown in Table 7 and indicate that material supply innovation strategies have a statistically significant positive effect on sales growth of manufacturing firms at 5 % significance level ($\beta = 0.274, p = 0.000 < 0.05$). In other words, an increase in one unit of material supply innovation will result in 0.274 increase in sales growth. Thus, the null hypothesis is rejected at $\alpha = 0.05$ since the p-value (0.000) is less than 0.05 and the alternative hypothesis is supported; meaning that material supply innovation strategies have a positive significant effect on the financial performance of manufacturing firms in Malawi.

Table 7 Regression Coefficients : Material Supply Innovation strategies and Firm’s sales growth

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.447	.126		19.354	.000
	Material supply innovations	1.290	.108	.274	11.905	.000

a. Dependent Variable: Sales growth in the last five years

This implies that manufacturing firms which implement material supply innovation strategies perform better than the manufacturing firms that do not implement material supply innovation.

The results of the current study, which show the positive significant effect of material supply innovation strategies on firm performance, support the findings of previous studies such as Yusufu et al. (2024) and Setiadi et al. (2024). Yusufu et al. (2024) observed that strategic sourcing innovation in general helps firms to build strong supplier relationships which in turn enhance consistency and superior service delivery. Strategic sourcing innovation also helps firms to efficiently adapt to changing market conditions, such as the everyday fluctuations in the cost of raw materials, thereby reducing supply disruptions and ensuring greater stability in its production (Yusuf et al., 2024). Similarly, Setiadi et al. (2024) observed that strategic sourcing enhances the firms' efficacy, efficiency, and productivity.

The findings of the current study are also in line with Munyi et al. (2020) and Kihanya et al. (2017). These previous studies found that strategic sourcing of materials in general (which involves material supply innovation) positively affects firm performance. For example, Munyi et al. (2020) examined strategic sourcing as a tool for improving firm's performance and found that strategic sourcing positively contributes to firm performance. The finding suggests that successful implementation of strategic sourcing improves firm's performance through adoption of multiple sourcing strategies as well as maintaining manageable supply base (Munyi et al., 2020). Similarly, Kihanya et al. (2017) investigated the role of strategic sourcing on organization's performance and the findings indicated that strategic sourcing positively affects organizational performance. Kihanya et al. (2017) observed that strategic sourcing enables the organization to concentrate on its core functions which in turn helps the company to achieve strategic advantage and at the same time act as a means in which business conditions or problems can be reduced in a manner that is more efficient or effective.

The results of the current study show that material supply innovation strategies help the manufacturing firms to increase the efficiency of acquiring raw materials. The results further indicate that material supply innovation strategies help the manufacturing firms to reduce the cost of acquiring raw materials and to source high quality raw materials. For instance, according to the results, the majority (81.1 %) of the respondents of manufacturing firms that implemented material supply innovation strategies indicated that material supply innovation helps the manufacturing firms to reduce the cost of acquiring raw materials. Similarly, a large proportion (78.9 %) of the respondents of manufacturing firms that implemented material supply innovation strategies indicated that material supply innovation strategies help the manufacturing firms to source high quality raw materials.

These findings imply that manufacturing firms can use material supply innovation to efficiently acquire cheap or low-cost materials as well as high quality raw materials. The reduction in the cost of sourcing raw materials will in turn help the manufacturing firms not only to increase the returns and maximize the profitability but also increase their competitiveness or gain competitive advantage.

The findings of the current study are consistent with the findings of previous studies such as Munyi et al. (2020). According to Munyi et al. (2020) and Kihanya et al. (2017), strategic sourcing innovation (material supply innovation) helps firms to reduce costs, increase productivity and increase return on investment. A firm's strong relationship with a new strategic supplier helps to improve process efficiencies which in turn result in low cost and creates a greater value for the materials (Kihanya et al, 2017; Munyi et al., 2020). Strategic sourcing innovation also helps to ensure timely delivery of materials. According to Kihanya et al. (2017), if goods and materials arrive late or work is not completed at the right time, sales may be lost and production halted. Such disruptions negatively affect the firm's profitability. Material supply innovation or strategic sourcing of materials requires manufacturing firms to develop a functional partnership with a strategic supplier and such relationships can be a base of competitive advantage if companies combine resources in unique ways (Kihanya et al., 2017).

In brief, material supply innovation strategies enable manufacturing firms to increase efficiency of acquiring materials, source low-cost materials, acquire high quality raw materials and gain competitive advantage by having a unique access to raw materials and suppliers with an effective system. The results of this study support the Schumpeterian theory of innovation. According to Schumpeterian theory, innovation drives firm profitability, competitiveness and firm growth (Langroodi, 2021). Material supply innovation constitutes one of the dimensions of innovation.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The aim of the study was to investigate the effect of material supply innovation strategies on the financial performance of manufacturing firms in Malawi. The study found that material supply innovation strategies positively and significantly affect the performance of manufacturing firms in Malawi. Thus, manufacturing firms which implement material supply innovation strategies perform better than non-innovators. Material supply innovations help manufacturing firms to increase efficiency of acquiring materials, source low-cost materials, acquire high quality raw materials and gain competitive advantage by having a unique access to raw materials and suppliers with an effective system.

5.2 Theoretical and Practical Contributions

Almost all the literature on innovation have looked at innovation mainly from the output perspective and not input perspective. In other words, they have focused on the effect of innovation outputs such as product innovation, process innovation, market innovation and organizational innovation on firm performance. The innovation inputs such as the supply of raw materials have not been given an attention. The contribution this study makes to the existing literature, therefore, is that it provides the insightful information on the effect of material supply innovation strategies on the performance of manufacturing firms. The study demonstrates how material supply innovation strategies positively contribute to firm performance through increasing efficiency of acquiring materials, sourcing low-cost materials, acquiring high quality raw materials and achieving competitive advantage. The study also provides valuable information which managers and owners of manufacturing firms can use to formulate and implement material supply innovation strategies that can help to enhance the performance of the manufacturing firms in Malawi.

5.3 Recommendations

The study recommends that manufacturing firms should embark on material supply innovation strategies to increase their performance. They should implement material supply innovation strategies so as to increase efficiency of sourcing raw materials, source low-cost materials, source high quality raw materials and enhance competitiveness.

5.4 Limitations and Future Research

This study investigated the effect of material supply innovation strategies on the performance of small, medium and large manufacturing firms. It did not investigate the effect of material supply innovation strategies on the performance of firms in the other sectors or the effect of material supply innovation strategies on the performance of micro manufacturing firms. So future research needs to investigate the effect of material supply innovation strategies on the performance of firms in the other sectors or the effect of material supply innovation strategies on the performance of micro manufacturing firms.

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