



The Mediating role of Innovation on the nexus between Logistics Management Practices and Operational Performance: Cameroon's manufacturing Context

Jawea S. Ekonje¹, Messomo S. Elle², Visemih W. Muffee³, and Marcellus F. Nkengeanyi⁴

¹Assistant Lecturer of Management, University of Buea, Cameroon

²Professor of Management Sciences, University of Buea, Cameroon

³Professor of Finance and Accounting, University of Bamenda, Cameroon

⁴Senior Lecturer of Human Resource and Marketing, University of Buea, Cameroon

Email: ekonje.smith@gmail.com

Abstract— This study employed the cross-sectional survey research design, with primary data collected from 182 manufacturing firms in the South west and littoral regions in Cameroon using the simple random sampling. Regression and causal mediation analysis, based on Baron and Kenny (1986) and Zhao et al. (2010), were conducted using STATA software. Overall, the results reveal a significant positive impact of logistics management practices on operational performance. Specifically, the results show that order processing, transportation management and reverse logistics are positively associated with higher operational performance. However, the result indicates that, the implementation of inventory management is associated with lower levels of operational performance, with a negative coefficient of -0.106. Additionally, testing the correlation between innovation and operational performance revealed that innovations significantly enhance operational performance in manufacturing firms. Mediation analysis also revealed that logistics management practices, especially through order processing, transportation management and reverse logistics have a direct positive effect on operational performance and a positive indirect effect through innovation. Based on these findings, this study recommends that manufacturing firms, in pursuit of their operational performance, should effectively implement logistics management practices. Also, manufacturing firms should develop a strategic plan to facilitate the implementation of innovative solutions. Finally, this study suggests that manufacturing firms should consider implementing decentralised order points, collaborating with third-party carriers and the use of larger vans to transport goods, and utilising modern suitable inventory techniques, given the observed inverse relationship between inventory management implementation and operational performance.

Keywords— Innovation, Logistics management practices, Operational performance.

I. INTRODUCTION

Performance remains a pressing concern and informs decision making for all enterprises worldwide (Galbreath, 2012). In the context of manufacturing firms, performance assumes a complex dimension, necessitating the integration of multiple components, including logistics and innovation to enhance operational performance. Effective logistics management serves as a key differentiator in the business logistics landscape (Gunaseakaran & Ngai, 2003).



Manufacturing firms have come to recognize the importance of supply chain management facilitated by efficient logistics in creating sustainable economic advantages for their products in an increasingly competitive market environment (Mwinzi, 2018).

Logistics management is unquestionably a crucial strategic component for boosting competitiveness within industries which nowadays are required to operate in a more dynamic environment (Takwi & Atabongfua, 2020) which is highly customer centric.

The growing pressure on firms to sought for innovative ways to produce value and provide it to their consumers is increasing in today's fiercely competitive global marketplace (Sitienei & Memba, 2015). Researchers in the 21st century, have drifted more attention on innovation and their relationship with logistics management as medium for operational performance.

Innovation has its bearings from the work of Schumpeter in the year 1934, where the theory of economic development presents innovation as the creation and application of new ideas, products, or processes to improve efficiency and effectiveness (Schumpeter, 1934).

This study narrows the view of innovation to the technological activities in-terms of product innovation (introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses) and process innovation (implementation of a new or significantly improved production or delivery method).

The choice of process and product innovation as sub-constructs for innovation is that they can be applied in almost every industry which makes it ideal for manufacturing companies (Lee et al., 2017).

In this study, logistics refers specifically to Logistics management practices which can be viewed from two distinct perspectives: as a process or a set of practices and activities. From a process-oriented perspective, Muslimin et al. (2015) describe logistics management as involving the planning, organisation, implementation and control of the movement, storage and distribution of goods and services.

Logistics management practices encompassing various activities, including order processing, inventory management, customer service, transportation management, information management, and warehousing.

Building on the definition of Slack et al. (2010), operational performance in this study refers to the efficiency and effectiveness of an organization's operations, assessed by its achievements of objectives related quality, speed, cost and flexibility. It focuses on variables such as speed/timely delivery, cost reduction and flexibility.

Research in this area is essential to understand how manufacturing firms can enhance their competitiveness and sustainability through effective logistics management, innovation, and improved operational performance. As



noted by Tanco et al. (2015), there is a pressing need for empirical studies that investigate the interrelationships between these factors in the context of manufacturing firms.

In the perspective of the National Development Strategy for 2020-30 (SND30), Cameroon aims to become a newly industrialized country by increasing the Manufacturing Value Added (MVA) from 14.5% in 2017 to an approximately 25% and the share of manufacturing export to 54% in 2030. As part of the State's effort from NDS30, the manufacturing sector has benefited from direct subsidies, tax incentives and various tax and customs related measures to encourage domestic production and a shift from just production of raw materials.

Despite government efforts, there is increasing concerns on the state of the operational performance (IMF, 2023). The manufacturing sector employs around 9.2 per cent of the total labour force, supplies its output both in domestic and foreign markets, generates foreign exchange receipts (up to 35 per cent of export receipts) and contributes up to 17.5 percent to the Gross Domestic Product (GDP) at current prices. The manufacturing sector's contribution to GDP according to IMF (2024) in the last two decades has witnessed a sharp decrease (IMF, 2024).

Furthermore, government spending on direct subsidies to state owned companies in Cameroon have witnessed a significant increase from 10billion in 2018 to about 40billion in 2020 without any tangible corresponding increase in their performance (IMF, 2024).

Consequently, out of the twenty-three (23) African nations assessed; Cameroon ranks 15th. This ranking indicates that while Cameroon's manufacturing sector performs above the sub-Saharan African average, it is still lags behind other regions, including Middle East and North Africa.

The nation is ranked one hundred and twenty-one (121) out of one hundred and thirty-two (132) economies (Global Innovation Index, 2022). This ranking is below the benchmark of the economies of Sub-Saharan Africa, which means Cameroon is not as innovative in manufacturing in sub-Saharan Africa (World Development Indicators, 2024).

Research Hypotheses

H_{a1}. Logistics management practices (order processing, inventory management, transportation management and reverse logistics) has a significantly effect on innovation in manufacturing companies in the South West and Littoral regions of Cameroon

H_{a2}. Logistics management practices (order processing, inventory management, transportation management and reverse logistics) has a significantly effect on operational performance in manufacturing companies in the South West and Littoral regions of Cameroon

H_{a3}. Innovation significantly mediates the effect of Logistics management practices on operational performance in manufacturing companies in the South West and Littoral regions of Cameroon.

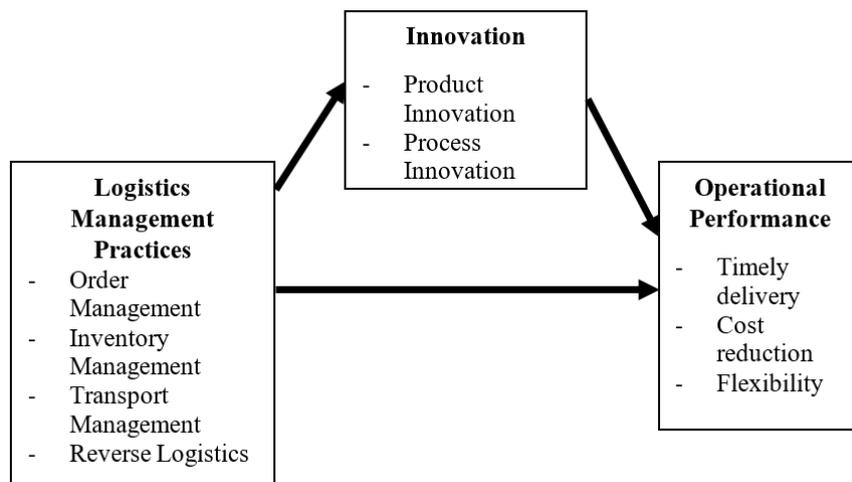


Figure 1. Conceptual Framework

Source: Author (2024)

The conceptual framework above portrays the interplay of the relationship between the dependent variable (Operational Performance), the mediation variable (Innovation), the independent variable (Logistics Management Practices) using specific constructs such as; Order Management, Inventory Management, Transport Management, and Reverse Logistics.

II. THEORETICAL FOUNDATION (THE DIFFUSION OF INNOVATION THEORY).

In understanding how innovation mediates the relationship between logistics management practices and operational performance in Cameroon's manufacturing firms, the diffusion of innovation theory presents itself as a succinct framework, formulated by Everett M. Rogers (1962) it sought to expound knowledge on the factors that influence the adoption and acceptance of innovation by organizations and taking into account factors such as the characteristics of the innovation, communication channels, time, the social system, and the stages of adoption. It sheds light on how new ideas and technologies permeate through organizations and industries, emphasizing the critical role of logistics in facilitating the adoption and implementation of innovative practices.

The diffusion of innovation theory provides a conceptual framework to examine the adoption and diffusion of logistics management practices within manufacturing companies. It highlights the importance of communication channels, the role of early adopters as opinion leaders, and the impact of social systems on adoption decisions (Rogers, 1962)..

Empirical literature

Ifekanandu et al., (2024) in a study on logistics management on operational efficiency based on a population of 30 food and beverage firms found that transportation management and inventory management have both significant and positive effect on operational efficiency in food and beverage firms in Port Harcourt. The study concluded that to propel operation processes in an organization, transport and inventory management should be strongly incorporated to improve productivity within the organization.

Also, Chege and Wachiuri. (2022) investigated on the influence of logistics management practices on the performance of food and beverage manufacturing firms in Nairobi City County, Kenya. The result showed that logistics management practices: transport management, information management, asset management and contracting had a significant impact on the performance of food and beverage manufacturing companies. The study recommended that order management, technology and automation should be examined in further examination.

Chala and Kumar (2021) examined the effect of logistics management on organizational performance at wonji/shoa sugar factory. The study's main focus was to analyse the effect of logistics activities on the performance at wonji/shoa sugar factory Ethiopia. The study findings showed that transportation, inventory and warehouse management had positive and statistically significant effect on organizational performance.

Suhag et al., (2017) sought to understand the interrelationship between innovation and organizational performance being moderated by organizational culture. Primary data was used and a survey research design adopted with a sample size of 200 employees of the telecommunication sector. They found that product innovation, process innovation and organizational innovation has positive influence on firm performance.

III. METHODOLOGY

This study employed a cross-sectional survey research design with a target population of 778 large companies in Cameroon (MINPMEESA, 2024), the selected manufacturing firms in Cameroon, were classified within the 6 groups Agro/ food processing, wood products, pharmaceutical, textile, light consumer goods and construction. Once the groups were established, a stratified and purposive sampling technique was used to obtain population sample.

The sample size of this study is 256 manufacturing companies using the Krejcie and Morgan (1970) and 185 questionnaires were correctly filled and returned. The data for the study was collected by administering a structured survey questionnaire to the top management of each of the companies selected.

The data analysis was done with the help of two (2) statistical programs, Microsoft Excel (used for data coding and inputting) and STATA 17 used for analysis. The hypothesis in the study was tested using the Structural Equation Modeling (SEM) and verified at 95% confidence level.

The mediation effect was tested based on the Baron and Kenny (1986) which states three steps which must all be significant to claim mediation. The step include step 1; which measures the impact of the independent variable on the mediator ($X \rightarrow M$), step 2 measures the impact of the dependent variable on the independent variable ($Y \rightarrow X$), step 3 of the approach measures the impact of the dependent variable on both the independent variable and on the mediator ($Y \rightarrow X.M$). Therefore, the study adopts this approach that if any step is not significant, there is no mediation. Whereas if all three (3) steps including the Sobel z test are significant, then mediation exist. This study further makes use of the Zhao et al. (2010) which goes beyond determining if mediation occurs, but assesses the total effect, indirect and direct effect to determine the type of mediation, percentage of mediation and the size of



the mediation. In order to determine the statistical significance of the indirect effect ($\beta_2 \times \beta_4$), the Bootstrap Test will be used to compare the magnitude of the indirect effect to its estimated standard error of measurement to derive a t-statistic (Zhao et al., 2010).

To investigate the role of Logistics Management Practices on Operational Performance in manufacturing companies in Cameroon as mediated by Innovation.

$$INN_i = \alpha + aLMP + \xi_i \dots \dots \dots (Case 1)$$

$$OPP_i = \alpha + c' LMP + \xi_i \dots \dots \dots (Case 2)$$

$$OPP_i = \alpha + cLMP + bINN + \xi_i \dots \dots \dots (Case 3)$$

Dependent Variable

OPP: Operational Performance of Manufacturing Companies

Independent Variable

LMP: Logistic Management Practices: Order Management, Inventory Management, Transport Management, Reverse Logistics. LMP: OM, IM, TM, RL

Where: LMP: Logistic Management Practices

OM: Order Management, IM: Inventory Management, TM: Transport Management, RL: Reverse Logistic

IV. RESULTS

The researcher administered 256 questionnaires, and the returned questionnaires were 185 questionnaires given a response rate of 72%. This response rate is in line with the findings of Fincham (2008) who stated that the acceptable response rate for survey research is 65% and above.

From the total sample size of 185 respondents, 71 were from agro/food representing 38.4%, 26 were from the construction representing 14.1%, 26 were from light companies giving a 14.1%, 44 were from the pharmaceutical representing 23.8%, 5 were from the textile sector which consists of 2.7%, and the wood production sector were 13 consisting of 7%.

To ensure that there is no presence of strong or perfect multicollinearity associated with the regression result (Azizeh et al., 2023) a pairwise correlation matrix was conducted as seen below

4.1. The Pairwise Correlation Matrix

Table 1. Pairwise Correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) operational_per~x	1.000										
(2) timely_delivery	0.764	1.000									
(3) cost_reduction	0.845	0.425	1.000								
(4) flexibility	0.870	0.521	0.629	1.000							



(5) order_processing	0.742	0.536	0.646	0.654	1.000						
(6) inventory_mgt	0.591	0.361	0.493	0.605	0.785	1.000					
(7) transport_mgt	0.732	0.519	0.543	0.754	0.715	0.735	1.000				
(8) reverse_logist~s	0.730	0.454	0.623	0.724	0.618	0.456	0.591	1.000			
(9) innovation	0.776	0.558	0.558	0.810	0.661	0.568	0.723	0.639	1.000		
(10) product_inno	0.719	0.595	0.484	0.716	0.643	0.525	0.672	0.616	0.944	1.000	
(11) process_inno	0.726	0.428	0.563	0.801	0.580	0.533	0.673	0.568	0.914	0.729	1.000

Source: from Field Data (2024)

The findings in table 1 show that the leading diagonal of the pair-wise correlations matrix table stands at 1.000. This indicates that each of the explanatory variables is perfectly collinear to itself. As such there is a one-by-one relationship between explanatory variable and itself. At the same time, the correlation coefficients between an explanatory variable and other explanatory variables are less than 0.85 implying that there is the absence of problems of collinearity amongst the explanatory variables. As such these explanatory variables can be included in the same model.

Case 1: To assess the impact of Logistics Management Practices on Innovation in manufacturing companies in Cameroon.

Table 2. Regression Result

VARIABLES	(1) Innovation	(2) product_inno	(3) process_inno
Order_processing	0.142*** (0.0443)	0.241*** (0.0587)	0.0429 (0.0487)
Inventory_management	-0.0382 (0.0663)	-0.149 (0.0901)	0.0726 (0.0620)
Transport_management	0.369*** (0.0717)	0.420*** (0.0902)	0.317*** (0.0717)
Reverse_logistics	0.139*** (0.0354)	0.131** (0.0506)	0.148*** (0.0376)
Constant	1.681*** (0.203)	1.567*** (0.258)	1.795*** (0.197)
Observations	185	185	185
r2_a	0.654	0.596	0.576
F	19.92***	11.93***	23.38***

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: from Field Data (2024)



Table 2, revealed that order processing has a positive effect on the innovation of manufacturing companies in Littoral and Southwest Region. Specifically, a unit increase in order processing will result to an increase in firms' innovation by 0.142 units and the result is statistically significant at 1% level. The finding is in line with the a priori expectation. Similarly, order processing has a positive effect on product innovation (one of the proxies of innovation with a coefficient of 0.241 and the result is tenable at 1% level of significance. Whereas, order processing has a positive effect on process innovation with a coefficient of 0.043, this result is statistically insignificant.

Table 2, also indicated that inventory management has a negative and an insignificant effect on the innovation of manufacturing companies in Cameroon. Increasing inventory management by one unit will results in a decreased in innovation of the sampled companies by 0.038 units.

This result is statistically insignificant and is contrary to the a priori expectation. Specifically, innovation in the same vein has an inverse effect on product innovation with a coefficient of -0.149, indicating that with a unit increase in inventory management, product innovation will drop by 0.149 units, this result is contrary to a priori expectation. Lastly, inventory management has a positive effect on process innovation with a coefficient of 0.073. This result indicates that a unit increase in inventory management will result in a 0.073 unit increase in process innovation and it is statistically insignificant.

The findings above also indicate that transportation management has a positive effect on innovation of manufacturing companies in Cameroon. This implies that a unit increase in transport management will lead to 0.369 units increase in innovation of the sampled companies.

The finding is statistically significant at 1% level and is in accordance with the a priori expectation. Transportation management in the same light has a positive effect on product innovation and process innovation with coefficients of 0.420 and 0.317 which are all significant at 1% level of significance.

Reverse logistics has a positive effect with a coefficient of 0.139 on the innovation of manufacturing companies in Cameroon. This means that when we increase reverse logistics by one unit, innovation will increase by 0.139 units and the finding is tenable at 1% level of significance.

This significant result conforms to the a priori expectation. In a similar note, the above result is guided by the outcome of the relationship with the two sub-constructs. So reverse logistics has a positive effect on product innovation and process innovation with coefficients of 0.131 and 0.148, the coefficients are positive and statistically significant at 5% and 1% level of significance.

The findings are in line with Gitonga, (2017) and Mwinzi (2018) and are indicative of the assertion that more use of technology within manufacturing enterprises will outstrip expenditure. The above results shows that logistics management practice affects innovation, which is in line with hypothesis one.

Case 2: To assess the role of Logistics Management Practices on Operational Performance of Manufacturing Companies in South West and Littoral

Table 3. Regression Result

	(1)	(2)	(3)	(4)
VARIABLES	operational_perf_index	timely_delivery	cost_reduction	flexibility
Order_processing	0.247***	0.409***	0.329***	0.00253
	(0.0425)	(0.0649)	(0.0687)	(0.0545)
Inventory_management	-0.106*	-0.219***	-0.0760	-0.0226
	(0.0580)	(0.0691)	(0.111)	(0.0590)
Transport_management	0.276***	0.230***	0.0878	0.510***
	(0.0690)	(0.0805)	(0.123)	(0.0765)
Reverse_logistics	0.230***	0.0808	0.339***	0.270***
	(0.0365)	(0.0490)	(0.0692)	(0.0549)
Constant	1.629***	1.937***	1.698***	1.251***
	(0.172)	(0.231)	(0.285)	(0.176)
Observations	185	185	185	185
r2_Adjusted	0.752	0.522	0.579	0.766
F	67.27***	15.94***	18.50***	35.14***

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: from Field Data (2024)

The findings in table 3 reveal that order processing has a positive effect on the operational performance of manufacturing companies in Cameroon. Specifically, a unit increase in order processing will result to an increase in operational performance by 0.247 units and the result is significant at 1% level. The finding is in line with the a priori expectation and in accordance with the work of Gitonga (2017) and of Omoush (2022). In the same light order processing has a positive effect on timely delivery and cost reduction which is tenable at 1% level of significance. Also, a unit increase in order processing will lead to a 0.003 unit increase in flexibility, where the result is insignificant.

Also, transportation management has a positive effect on the operational performance of manufacturing companies in Cameroon. This implies that a unit increase in transport management will lead to 0.276 units increase in operational performance of the sampled companies. The finding is significant at 1% level and is in accordance with the a priori expectation this is also in line with the study of Ifekanandu et al., (2024). Also, transportation management has a positive and significant effect on timely delivery and flexibility which is significant at 1% level of significance. This therefore indicates that an increase in a unit of transportation management will lead to a 0.230 unit increase in timely delivery. This result explains that management of the



transport of goods within an organization will lead to success in delivery, indicating the presence of delivery within the time scope. Also, an increase in a unit of transportation management will lead to a 0.510 unit increase in flexibility. Indicating that when transportation management is established, it may lead to gaining more reliable third party carriers which will ensure options in case of any incident to ensure no backlash and rigidity along the chain. However, transportation management has a positive yet insignificant effect on cost reduction with a coefficient of 0.088. It therefore indicates that an increase in a unit of transportation management will lead to a 0.088 unit increase in the cost reduction. This result explains that management of the transport of goods within an organization will lead to cost savings for other operations.

Moreover, reverse logistics is noted to have a positive effect on the operational performance of manufacturing companies in Cameroon. This means that when we increase reverse logistics by one unit, operational performance will increase by 0.230 units and the findings is tenable at 1% level of significance. This finding conforms to the a priori expectation that reverse logistics positively influence operational performance. Reverse logistics has a positive and an insignificant effect on timely delivery. The result indicates that an increase in a unit of reverse logistics will lead to a 0.081 unit increase in timely delivery. This result explains that management of backward flow of goods and remanufacturing within an organization will lead to on-time delivery. Also, an increase in a unit of reverse logistics will lead to a 0.339 and 0.270 unit increase in cost reduction and flexibility. This result is statistically significant at 1% level of significance indicating that when reverse logistics is implemented, it would result not skyrocketing as company may focus on remanufacturing and not just purchasing new raw materials always and it would lead to flexibility of the organization and ensure that there would be less reliance on only specific raw materials and method of production.

However, inventory management has a negative effect on the operational performance of manufacturing companies in Cameroon. Increasing inventory management by one unit results in a fall in a decreased in operational performance of the sampled companies by 0.106 units. This result is tenable at 10% level of significance and is contrary to the a priori expectation. The negative effect of inventory management on operational performance of these companies could be associated to the fact that these companies may have employed more sophisticated technology to check and control inventory level than is required which could lead to increase expenditure by the organization in order to realize better inventory management this results also ties to the findings of Ristovska (2017).

Furthermore, inventory management has a negative but significant effect on timely delivery as a component used to measure operational performance. The results indicate that an increase in inventory management will lead to a reduction in delivery time of goods and the results are significant at 5% level of significance. However, inventory management has a negative and insignificant effect on cost reduction and flexibility of firms in South West and Littoral. This result indicates that a unit increase in inventory management will lead to a 0.076 unit fall in cost reduction. From this, we draw inference that when inventory management is practiced, the cost incurred by the business increases and also a unit increase in inventory management will lead to a 0.023 unit fall in flexibility of



the organization. This is from the perspective that if inventory management is done using huge fixed cost or higher sophisticated technology, it will be reduce the level of flexibility in the organization.

Case 3: To investigate how innovation mediates the relationship between Logistics Management Practices and Operational Performance

To determine the transmission effect of logistics management practice on operational performance passing through innovation, further evidence is needed. It is necessary before looking at the transition effect to see the impact of the independent variable on the transmission channel as such, we run a structural model.

Table 4. Structural Model Analysis

VARIABLES	(1)	(2)	(3)
Innovation		0.302*** (0.0595)	/
Order_processing	0.134*** (0.0522)	0.199*** (0.0406)	
Inventory_management	-0.0393 (0.0573)	-0.0612 (0.0440)	
Transport_management	0.345*** (0.0580)	0.136*** (0.0489)	
Reverse_logistics	0.161*** (0.0383)	0.208*** (0.0309)	
var(e.innovation)			0.0988*** (0.0103)
var(e.opertional_perf_index)			0.0534*** (0.00556)
Constant	1.755*** (0.139)	1.051*** (0.194)	
Observations	185	185	185

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: from Field Data (2024)

The finding in table 4 indicates the structural model and posits that innovation influences positively and significantly order processing, transport management and reverse logistics at 1% level of significance.

The result indicates that a percentage increase in innovation will result to 13.4%, 34.5% and 16.1% respectively whereas innovation has a negative effect on inventory management and a percentage increase in innovation rather has decreasing effect by 3.9%.

Also having seen that they have an impact, though for inventory management statistical significance may not coincide, there is a quantitative extent through which all the logistics management practices have some effect on innovation.

Table 5 Transmission Effect

Transmission Channel	Direct Effects	Indirect Effects	Total Effects	% of the mediation [Indirect effect/Total effect]	Size of mediation [Indirect effect/Direct Effect]	Type of mediation
Innovation	0.1985*** (0.0406)	0.0406** (0.0177)	0.2392*** (0.0426)	17%	0.2	Partial
	-0.0612 (0.0440)	-0.0119 (0.0175)	0.0731 (0.0473)	16%	0.2	No mediation
	0.1358*** (0.0489)	0.1042*** (0.0270)	0.2400*** (0.0474)	43%	0.8	Partial
	0.2082*** (0.0309)	0.0487*** (0.0150)	0.2569*** (0.0321)	19%	0.2	Partial
Estimates	Delta		Sobel	Monte Carlo		
Order Processing	2.297**		2.297**	2.025**		
Inventory Management	-0.680		-0.680	-0.683		
Transport Management	3.862***		3.862***	3.807***		
Reverse Logistics	3.239***		3.239***	3.180***		

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: from Field Data (2024)

Table 5 highlights in line with Zhao, Lynch & Chen's approach to testing mediation, the indirect relationship reveals that order processing indirectly increases operational performance. That is order processing through innovation has 0.0406 indirect effects on operational performance. This coefficient is significant at 5% level of significance. The result further explains that innovation mediates the effect of order processing on operational performance by 17% and as such, the coefficient is by 0.2 times large. The findings here reveal that there is partial mediated effect. Also, transport management on the same note through innovation has 0.1042 indirect effects on operational performance. The coefficient of transport management in this effect is significant at 1 % level of significance. The result further explains that innovation mediates the effect of transport management on operational performance by 43%. This result is indicative of the fact that transport management coefficient is 0.8 times large, resulting to a partial mediated effect. In the same light reverse logistics has an indirect coefficient of 0.049 tenable at 1% level of significance. The result indicates that innovation mediates the effect of reverse logistics on operational performance, this is by 19% and as such the coefficient is 0.2 times more.

However, the result reveals that inventory management indirectly reduces the operational performance of manufacturing firms through innovation. Inventory management has a negative coefficient of -0.0612 which is statistically not significant. Innovation further reduces the effect of inventory management on operational



performance by 16% as such the magnitude of the effect is 0.2 the results therefore reveals that there is no mediated effect of innovation in the relationship between inventory management an operational performance.

V. CONCLUSION

The study examined the mediating effect of innovation on the relationship between logistics management practices and operational performance of manufacturing firms in Cameroon. The study made use of the Baron and Kenny (1986) approach of mediation with the extension of Zhao et al (2010) approach to test mediation.

The result of the study answers the most fundamental issues of manufacturing companies and their leadership. The result reveals that operational performance is positively influenced by order processing, transportation management and reverse logistics. Where order processing indicates that manufacturing firms should consider digitalizing and decentralising their order processes, also transportation management ensures strong relationships with reliable and efficient carriers and utilization of larger trucks to reduce turnaround time for vehicles to eliminate delays and reverse logistics sought the adherence to eco-friendly policies.

Whereas inventory management has a negative coefficient though statistically significant at 5%, indicating that manufacturing firms should carefully adopt inventory techniques not based on trend but on suitability and adaptability to their performance, the results further indicate the presence of complete mediation of innovation. This means organization intending to strengthen the effect of logistics management practices on operational performance should incorporate innovation as both the direct and indirect effect are all statistically significant showing path exist through the mediator.

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