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Effect of Digitalization on Logistics Performance among Logistics Related Companies in Cameroon

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Crossref

Abstract

Purpose: This paper explores the impact of Digitalisation (Technology adoption, Digital skills and digital infrastructure) on Logistics Performance among Logistics Related Companies in Cameroon.

Materials and Methods: From over 600 accredited logistics related companies in Cameroon, 234 were extracted based on the Krejcie and Morgan sample size table using the purposive sampling technique based on cross-sectional data from questionnaires. Data was analyzed using the Ordinary Least Squares.

Findings: The findings revealed that Technology adoption (TA), digital skills (DS) show a significant positive influence on logistics performance while digital infrastructure (DI) has an insignificant positive influence on logistics performance. The control variables of experience of respondents (Esp), and company size (Comsize) all insignificantly influence logistics performance.

Implications to Theory, Practice and Policy: This study recommends Organizations to focus on increasing technology adoption (TA) and implement cutting-edge technologies, such as Internet of things and automation, leverage the findings related to digital skills (DS) and recognize the critical role of a digitally skilled workforce in driving logistics performance. Investing in training programs and fostering a culture of continuous learning will contribute to workforce readiness for digital advancements. By understanding the specific relationship between digitization efforts and logistics performance outcomes as per this study, stakeholders would assist logistics related companies in Cameroon in making informed decisions regarding their digitization strategies. The study provides practical recommendations for logistics companies in Cameroon on how to effectively implement digitalization strategies, such as leveraging technology for real-time tracking, automation, and data analysis to improve efficiency and reduce costs and some Best Practices for Digitalization in Logistics.

Keywords: *Digitalization, Logistics Performance, Logistics Related Companies*

1.0 INTRODUCTION

In a global economy, competitive and dynamic environment, the integration of digitalisation, supply chain management in logistics management is an important strategic factor for increasing competitiveness (Takwi & Mavis, 2020). However, in today's globalized and highly competitive business environment, efficient logistics management plays a crucial role in ensuring timely delivery of goods and services, thereby enhancing customer satisfaction (Ani-Agyei, 2023). Moreover, with the rise of e-commerce and the increasing complexity of supply chains, effective logistics management has become essential for companies to gain a competitive edge by optimising inventory levels, reducing transportation costs, and improving overall operational efficiency (Oluwaseyi *et al.,* 2017). Therefore, there is an emerging consensus about the need for companies to handle logistics issues along with economic and business issues.

According to Suarez-Barraza *et al.* (2016), the logistics concept is performed based on the activity flow of materials and products, from the point of supply to the point of consumption. There are different activities needed to be taken into account in order to maintain the flexibility in a logistics system. Based on the essence of logistics management, these logistics activities are divided into primary and supporting activities. However, the concept of logistics is to improve the efficiency and effectiveness of various business operations, such as transportation, warehousing and storage, order processing, material handling and many other activities and once logistics was used in rotation with several terms, including physical distribution and logistics business (Stock & Lambert., 2018).

Customer service is a critical aspect of logistics performance, which represents the ability of a company to meet or exceed customer expectations in terms of order fulfilment, delivery accuracy, and responsiveness (Christopher, 2016). Effective customer service contributes to overall customer satisfaction, loyalty, and positive brand perception. The Logistics Performance Index (LPI) is a widely used measure to assess the logistics performance of countries. It takes into account various dimensions of logistics, including infrastructure, customs efficiency, ease of arranging shipments, quality of logistics services, and timeliness (World Bank, 2020).

Digitalisation has transformed the way of interaction among suppliers and customers on a real-time basis (Gupta, *et al.,* 2022). Flexible operations, mass customisation, lean manufacturing, customised packaging and just in time is the need of the hour which can only be served to customers with the latest technologies. In the logistics sector, Industry 4.0 relies on artificial intelligence (AI), blockchains, big data analytics, cloud computing, Internet of things, additive manufacturing, etc. to name a few (Bibby, & Dehe, 2018; Koh et al., 2019). Human resource is an important part of the logistics industry and a strategic approach is required to develop experts to sustain in the industry 4.0 environments (D'antonio & Chiabert, 2018).

In world context, according to Price Water Copper, [PwC (2021)] digitalisation is a key driver of supply chain innovation in Europe among logistics companies, with companies investing in technologies such as AI, robotics, and the IoT to improve efficiency and agility. Digitalization has enabled greater supply chain transparency and sustainability, which is becoming increasingly important for European consumers. It is argued that, digitalisations in Europe can be expensive to implement and may lead to job losses and according European Union (2021), the transition to a digital supply chain can be challenging for small and medium-sized enterprises (SMEs), which

may lack the resources and expertise to implement digital technologies. However, the automation of supply chain operations can lead to job losses, particularly for low-skilled workers.

The integration of digitalisation systems in most logistics related companies in Africa has been challenging to implement due to infrastructure limitations. According to the African Development Bank Group (2020), Africa has a significant infrastructure deficit, with many areas lacking basic access to electricity, internet connectivity, and transportation with Sub Saharan Africa registering the lowest railroad and road densities among developing regions where road density has declined over the past 20 years (1990–2011). This makes it difficult to implement digital technologies in their supply chains and logistics operations. However, digitalisation never the less has offered unique opportunities in Africa, according to the International Finance Corporation (2018), digital technologies can help to address the challenges of infrastructure and logistics in Africa by enabling alternative delivery models and supply chain financing. For example, mobile payment systems and blockchain technology has enable secure and efficient cross-border payments and transactions in most African logistics related companies.

In Cameroon, logistics is essential for enabling commerce and promoting economic progress. The impact of digitalisation among companies in the logistics industry has increased efficiency and competitiveness (Gouanlong-Kamgang *et al.,* 2020). The World Bank's Logistics Performance Index shows that Cameroon has made progress in the sector, with the country's overall logistics performance increasing from a score of 2.79 in 2014 to 2.95 in 2018 (Arvis et al., 2023). But in order to realize its full potential, there has been a rising need to adopt digital technologies, which may improve logistics processes even further and support the sustainable growth of the economy (Boncukçu & Yildirim, 2023). Cameroon has been working to improve internet connectivity and expand access to broadband services. As of 2021, the Cameroon has had an internet penetration rate of 43%, according to the world Bank. The Cameroon Government has developed a National Information and Communication Technology policy to guide its digital development and launched a Digital Economy Strategy as a recognition of the importance of digital technologies. The integration of cutting-edge technologies like the Internet of Things (IoT) and blockchain in the logistics sector in Cameroon entails streamlining procedures, automating jobs, and improving decision-making (Boncukçu & Yildirim, 2023). These technologies may improve inventory management, route planning, and real-time shipment tracking, which will ultimately result in cost savings, quicker deliveries, and more customer satisfaction. However, companies such as Glotelho, DHL among many have adopted digital technologies that have boosted Cameroon's economy by bringing in international investment, generating job opportunities, and stimulating economic development (Kumar *et al.,* 2020).

In Cameroon, ICTs and digital technologies, logistics, and mode of transport have facilitated the development of digital business models in resource-scarce settings (Boojihawon & Ngoasong, 2018). Despite the fact that digital business models in developing economies such as Cameroon are still at an early stage, they are in need of institutional attention in order to develop the necessary know-how, skills and networks for sustained value creation and overall performance. Companies who have adopted these digital technologies in Cameroon have provided a wide range of solutions, including warehousing, transportation, customs clearing, order processing and freight forwarding. Although it is difficult to estimate the precise number of logistics related businesses in Cameroon, the industry includes both large global organisations and regional service providers (Shaikh *et al.,* 2023)

According to McKinsey & Company (2018), in developing countries for example in Cameroon companies that use digital technologies in their supply chain management experience a 20% increase in efficiency and a 30% improvement in customer satisfaction. Digitalisation enables real-time tracking and monitoring of inventory, transportation, and delivery, which can greatly improve supply chain visibility, responsiveness and overall logistics performance. According to Capgemini (2020), companies that have embraced digital technologies in their supply chain management are better equipped to handle disruptions, such as natural disasters or pandemics. Digitalisation enables companies to quickly pivot and adapt to changing circumstances, which can be critical for maintaining supply chain continuity.

Logistics plays a key role in supporting organisations as they strive for more efficient management systems (Adelwini et al., 2023). Cameroon's logistics sector lags behind in leveraging digital solutions, resulting in inefficiencies and a competitive disadvantage Kuteyi et al (2022). These include putting these companies at risk of logistical losses (expirations, pollution, theft, and damage), lack of a competitive advantage, inefficient storage methods, frequent material waste, product shortages, high customer dissatisfaction, poor product quality, a lack of flexibility, and employee dissatisfaction (Ogah et al, 2022).

As in the business practices, the inefficient logistics system together with the inefficient internal management, lack of awareness and understanding among organisations about the potential benefits of digital technologies in enhancing operational efficiency, inadequate infrastructure, inadequate skilled labor would disable the organisation to respond to the needs of customers with the lowest price at the shortest feasible time frame including the quality level which does not meet customer expectation and would lead the organisations to the competitive disadvantage situation in the market (Adelwini et al., 2023).

The World Bank's Logistics Performance Index (LPI) offers a benchmark to assess logistics performance of countries worldwide. For example, Kenya scores 2.93 on the LPI (2022 data), indicating room for improvement in areas like infrastructure and efficiency. Cameroon's current LPI score sits at 2.1 (2022 data), highlighting a gap between desired performance and reality (World Bank, 2024). In the 2018 edition, Cameroon ranked 133rd out of 160 countries indicating potential inefficiencies in its logistics sector. This suggests that while digitalization efforts are underway (Ndzie-souga & Bamboye-fondze, 2017), significant improvements in infrastructure and workforce skills are necessary to bridge the gap and enhance overall logistics performance in Cameroon. Therefore, it is against the above problem that this study sought to investigate the effect of digitalization on logistics performance among logistics related companies in Cameroon.

This piece sought to understand how the adoption of digital technologies and the digitization of supply chain processes can impact the local logistics business environment in Cameroon. This includes examining the readiness of companies in the country to embrace digitalization, considering factors such as infrastructure limitations, access to technology, and digital literacy levels among employees. Like the studies of Hapsatou et al (2023), this work sheds light on the specific barriers and challenges faced by businesses in Cameroon when implementing digitalization strategies in their supply chain management which includes exploring how automation, RFID, and electronic data interchange (EDI) can enhance efficiency, accuracy, and overall performance in the context of Cameroon. There is a scarcity of research specifically focusing on the relationship between digitization and logistics performance within the logistics industry in Cameroon, Hapsatou et al (2023). While studies on digitization and supply chain

management exist in the global context, this research examines the unique challenges, opportunities, and outcomes of digitization specifically for logistics related companies operating in Cameroon. Based on this development on Digitalization and its huge impact on the performance of Logistics related companies in our Cameroonian context, this research offers the first theoretical contributions for identifying and dealing with these challenges.

According to the overall objective of understanding the specific relationship between digitization efforts and logistics performance outcomes, this research closes the the gap in understanding the direct impact of digitization on logistics performance in the context of Cameroon and provides the unique opportunities for Digitization efforts of logistics related companies in Cameroon in making informed decisions regarding their digitization strategies. This paper is structured in 5 sections. Section 1 is the introduction which gives a background and understanding of the concepts. In section 2, literature is reviewed in conceptual, theoretical and empirical. Section 3 consists of the methodology used and section 4 presents and interprets the data. Section 5 closes with a conclusion and recommendations.

2.0 LITERATURE REVIEW

As new digital tools and regulations emerge on the market, industries are forced to transform their businesses towards a digital form of work. According to Afonasova *et al.,* (2019), being digital is referred to as a state that organisations are entering through continuous processes of digitisation and digitalisation providing new-customer centric value propositions. Hence, they innovate new products and services for customers and consumers which can lead to competitive advantages (Baiyere *et al.,* 2020).

Digitalisation has entered all aspects of human life and has become an important tool in facilitating, time saving and efficiency of almost all activities people carry out throughout the day. Therefore, it is not surprising that it is a must for organisation's functioning, business operations as well as its competitiveness on national and international market. Digital transformation refers to the process that commences from the moment an organisation starts thinking about introducing digital technologies in all business segments and lasts until its complete integration (Kahrović, & Kahrović, (2021).

Mangan *et al.,* (2008), logistics involves getting, in the right way, the right product, in the right quantity and right quality, in the right place at the right time, for the right customer at the right cost. According to Christopher (2013), logistics is defined as the process of strategically managing the procurement, movement and storage of materials, parts and finished inventory (and the related information flows) through the organisation and its marketing channels in such a way that current and future profitability are maximized through the cost-effective fulfillment of orders.

Moreover, Logistics management is the activity of the flow of goods and is divided into two namely managerial activities and activities in general operational. Managerial activities of logistics include planning, organizing and monitoring, while logistics operational activities include procurement, recording, storage, distribution, maintenance and deletion of goods, both goods to be sold to consumers with the aim of meeting customer needs and equipment that is an inventory for the company (Gunasekaran & Ngai, 2003).

This study adopted two theories, the Technological Determinism theory and the Dynamic Capabilities theory. Technological Determinism states that "media technology shapes how we as

individuals in a society, think, feel, act, and how society operates as we move from one technological age to another" Mcluhan, (1962). Through the lens of Marshall McLuhan's Technological Determinism Theory (1962), digitalization wouldn't simply be a tool for logistics related companies, but a transformative force affecting both structure and performance of Cameroon's logistics landscape.

Also, The Dynamic Capabilities Theory, introduced by Teece et al,(1997), is a management theory that focuses on a firm's ability to adapt, innovate, and reconfigure its resources and capabilities to respond effectively to a dynamic and changing environment. This theory offers a framework to analyze how digitalization affect logistics performance in Cameroon. In Cameroon's context, digitalization presents both opportunities and threats. Companies with dynamic capabilities can leverage digital tools like e-commerce platforms and data analytics to improve efficiency (integrating capabilities) and develop new services like last-mile delivery solutions (building capabilities). They can also reconfigure existing processes, such as workforce training to manage digital systems (reconfiguring capabilities), to optimize logistics performance in this evolving digital landscape. By actively adapting and integrating digital technologies, logistics companies in Cameroon can enhance their performance and gain a competitive edge.

Empirically, Kiggira (2019) explored the roles of Electronic Data Interchange (EDI) corporate policies, employee training, and volume of cargo processing and employee culture on supply chain performance inS the cargo distribution management in Kenya's Mombasa Port. The research used descriptive research design as it provides information on the characteristics of the phenomenon. The population was 167 employees of the Mombasa Port and the population sample was 50 employees who work at the operations department both at the office and in the field and amongst them,5-line managers were selected purposively. The response was 70% successful with a response of 35 out of 50 respondents. The sampling design that was used is the stratified random. A pilot test was done with the key informants before the full administration of questionnaire. Nevertheless, the researcher used questionnaires as the main method of data collection, although interviews and observations were applied as well.

Data was then analyzed using the quantitative and descriptive statistics, then presented using tables and pie charts, whereas the quantitative data was coded and data was entered in SPSS for analysis. The findings from this study showed that E.D.I plays a great role in the cargo distribution management at the Mombasa Port, although there are issues which include; inadequate non IT staff training, lack of trust of other EDI partners, negative staff employee culture by some employees and stakeholders, more requirements of changes in business requirements than expected, unforeseen technical problems and the system compatibility problems. It was concluded that a well adopted, planned and executed EDI roles and application process is necessary for the cargo distribution management at the Mombasa Port. In relation to our study, Digital tools such as the EDI have a huge impact on the logistics operations and its effective usage can enhance the functioning of Logistics related companies in Cameroon.

Benson et al. (2016) investigated the application of Electronic Data Interchange (EDI) in Logistics at Nas Hauliers, Rwanda. The study adopted a descriptive research methodology. The study targeted a population of 350 employees of Nas Hauliers, who are the EDI end users. Simple random sampling was employed giving each employee a chance to participate in the study. Semi-structured questionnaires were used to collect data, and analysis was done using Statistical Package for Social Sciences (SPSS) Version 18. The data was summarised using descriptive statistics.

Correlation analysis was used to test the relationships between the independent and dependent variables. The study revealed that management support for EDI application is lacking and that management didn't pay sufficient attention to problems that arose during EDI application implementation; and that top management didn't prioritise /emphasise EDI application support. This implies that the Logistics sector should invest in training and development of staff on skills needed in proper EDI application processes as this will lead to achieving staff productivity which will in turn ensure logistics efficiency which implies that a higher investment in digital tools will lead to an improved logistics performce of a logistics related organization as per our study.

There is a gap in understanding the direct impact of digitization on logistics performance in the context of Cameroon. While the potential benefits of digitization, such as increased efficiency, improved visibility, and enhanced customer service, are widely acknowledged, there is a need for empirical studies that quantify the impact of digitization on key logistics performance indicators in Cameroon. Such indicators could include technology adoption, digital infrastructure, digital skill, physical distribution, order fulfillment time, inventory turnover, transportation costs, and customer satisfaction. Understanding the specific relationship between digitization efforts and logistics performance outcomes would assist logistics related companies in Cameroon in making informed decisions regarding their digitization strategies.

3.0 METHODOLOGY

Scope, Population and Sample

The study explores the extent to which logistics related companies in Cameroon have adopted digital technologies and the level of digitalisation in their operations. It examines the use of digital tools, such as electronic data interchange, Radio Frequency Identification and other digital platforms, to improve operational efficiency, visibility, and communication within the supply chain. This may include aspects such as Technology usage/adoption, Digital infrastructure, Digital Skills, Physical Distribution and Customer Services. The researcher aimed to study the characteristics and behaviors of logistics related companies in Cameroon to gain insights into their operations and performance. The sample size was selected based on the table by Krejcie and Morgan, as cited in Amin (2005) and a minimum sample size for the study is 234 selected logistics companies in Cameroon and the reliability of the questionnaire was tested using Cronbach's Alpha and data collected within January 01 and 15th 2024. The study makes use of a quantitative research design using self-administered closed ended questions and data collected at the same time (Creswell, 2014).

Model Specification

This study is articulated around two models, as shown in the equation below: the model incorporates multiple variables and their relationships to test the research hypothesis. The equation represents the framework that guides the analysis and interpretation of the collected data:

$$LP = f(DIGITALISATION) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots..\dots 1$$

Consequently, the linear association between the variables in the model has the following form:

$$LP = f(TA, DI, DS, CV) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 2$$

In Equation (2), LP represents logistics performance, TA represent technology adoption, DI represent investment in digital infrastructure, DS represent digital skills, CV represents Control

Variables which in this study they are Company size (Comsize) and the level of experience (Esp). These are the explanatory variables in the multivariate analysis and the choice of these variables relies on the measurability of logistics management (LP). The β_0 is a constant term and β_1 to β_3 are estimated parameters in the model and ut is an error term. More specifically, the economic model is specified in equation 3 below:

$$LP_t = \beta_0 + \beta_1\, TA_i + \beta_2\, DI_i + \beta_3\, DS_i + \mu_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots 3$$

Estimation and Validation of Results

The above equation 7 will be analyzed using ordinary least squared technique (OLS), which is a statistical method used to examine the relationship between a dependent variable and one or more independent variables. It is commonly employed to identify how changes in the independent variables impact the dependent variable. In the context of this study on the effects of digitalization on supply chain management in logistics companies in Cameroon, OLS regression can help quantify and understand the relationship between digitalization efforts and Logistics performance.

4.0 FINDINGS

Results are presented in this section on the effect of digitalisation on logistics performance in logistics related companies in Cameroon.

Table 1: Summary Statistics

Variable	Obs	Mean	Std. dev.	Min	Max
TA	234	0.164577	0.14811	0.000	1
DI	234	0.067906	0.122791	0.000	1
DS	234	0.216892	0.134323	0.000	1
PD	234	0.138285	0.152172	0.000	1
CS	234	0.204271	0.134067	0.000	1
Esp	234	6.361111	5.865347	1	30
Comsize	234	170.0299	1457.511	3	22000

Source: Author's Construct, (2024)

Table 1 present the summary statistics of the variables, the table presents the variable, mean, standard deviations, minimum and maximum values of the variables. In terms of technology adoption (TA), the mean of 0.1646 indicates a moderate level. The standard deviation of 0.1481 suggests some variability, highlighting that companies in the sample exhibit differing levels of technology adoption, which could be attributed to various factors such as industry dynamics or organizational strategies.

Digital infrastructure (DI) appears to be a relatively weaker aspect, with a mean of 0.0679. The low mean suggests that companies, on average, have limited digital infrastructure in place. However, the standard deviation of 0.1228 indicates notable variation, suggesting that some companies might have invested more in digital infrastructure than others. Digital skills (DS) showcase a higher mean of 0.2169, indicating a relatively strong emphasis on developing digital skills within the workforce. The standard deviation of 0.1343 suggests varying levels of digital skills across the companies, possibly reflecting different training initiatives or recruitment

strategies. As a result of the normalisation of variables in order to transform them the values of the variables to a standard scale of range, the zeros and 1s were obtained for all the variables after normalising the original variables.

Table 2: Regression Results on the Effect of Digitalisation on Logistics Performance in Logistics Related Companies in Cameroon

LP	Coefficient	Robust std. err	t	P>t	[95% conf.	interval]
TA	0.220917	0.09314	2.37	0.019	0.037393	0.404441
DI	0.17934	0.145414	1.23	0.219	-0.10719	0.465866
DS	0.330623	0.097342	3.4	0.001	0.138818	0.522427
Esp	-0.00071	0.001297	-0.55	0.584	-0.00327	0.001846
Comsize	-2.12E-06	2.80E-06	-0.76	0.449	-7.65E-06	3.40E-06
_cons	0.058	0.017763	3.27	0.001	0.023	0.093001
Number of obs	234					
F(5, 228)	14.49					
Prob > F	0					
R-squared	0.4758					

Source: Author's Construct, (2024)

The regression results presented in Table 2 show the effect of digitalisation on logistics performance in logistics companies in Cameroon. From the table, technology adoption has a significant effect on logistics performance with a coefficient of 0.220917. This implies an increase in technology adoption in logistics companies in Cameroon will lead to a significant increase in their logistics performance. Digital infrastructure has an insignificant effect on logistics performance with a coefficient of 0.1793. This imply that an increase in digital infrastructure will have an insignificant effect on logistic performance. Digital skills have a significant positive effect on logistics performance with a coefficient of 0.3306, This implies an increase in digital skills by logistics companies in Cameroon will lead to a proportional increase in the logistics performance of these companies.

The level of experience (Esp) and the company size (Comsize) of logistics companies in Cameroon have an insignificant positive effect on logistics performance. This implies a change in the company size (comsize) or the level of experience (Esp) of workers in these companies will have an insignificant effect on the logistics performance of these companies.

The results of the objective were validated using the VIF results.

Discussion

Technology adoption (TA) emerges as a significant driver, with a positive coefficient, this implies that as companies embrace technology, their logistics performance experiences a notable significant boost. Digital infrastructure (DI) exhibits a positive yet marginally insignificant impact, suggesting that the infrastructure supporting digitalization may contribute positively to logistics performance, though in an insignificant level. Digital skills (DS) play a crucial role, showing a highly significant and positive impact on logistics performance. The overall model is exceptionally robust, as indicated by a high R-squared value of 0.4758, showcasing its ability to explain the

variance in logistics performance. The F-statistic 14.49 further reinforces the statistical significance of the model.

Starting with technology adoption (TA), the significant and positive coefficient (0.220917) suggests that an increase in technology adoption by logistics companies in Cameroon leads to a significant improvement in logistics performance. This finding resonates with previous studies that highlight the positive impact of technology adoption on various aspects of logistics and supply chain performance (Gunasekaran *et al.,* 2017; Nascimento *et al.,* 2019). Advanced technologies, when integrated effectively, can enhance efficiency, visibility, and responsiveness within logistics operations. However, digital infrastructure (DI) shows an insignificant effect on logistics performance in this study, as indicated by the coefficient of 0.1793. While unexpected, this result may suggest that, in the context of logistics companies in Cameroon, the current level of digital infrastructure may not be a decisive factor in influencing logistics performance. It is worth noting that the significance of digital infrastructure can vary across different industries and regions (Ivanov *et al.,* 2019).

On the other hand, digital skills (DS) exhibit a significant and positive effect on logistics performance (coefficient of 0.330623). This aligns with literature emphasizing the importance of a skilled workforce in leveraging digital technologies for improved logistics performance (Cao & Zhang, 2011; Lee & Kim, 2017). Adequate digital skills enable employees to effectively use and adapt to advanced technologies, contributing to enhanced logistics processes. These results can be compared to those gotten by Benson *et al.,* (2016) who investigated the application of Electronic Data Interchange (EDI) in Logistics at Nas Hauliers, Rwanda. The study adopted a descriptive research methodology. The study targeted a population of 350 employees of Nas Hauliers, who are the EDI end users. Simple random sampling was employed giving each employee a chance to participate in the study. Semi-structured questionnaires were used to collect data, and analysis was done using Statistical Package for Social Sciences (SPSS) Version 18. The data was summarised using descriptive statistics. Correlation analysis was used to test the relationships between the independent and dependent variables. The study revealed that management support for EDI application is lacking and that management didn't pay sufficient attention to problems that arose during EDI application implementation; and that top management didn't emphasize EDI application support. This study recommends that the Logistic sector should invest in training and development of staff on skills needed in proper EDI application processes as this will lead to achieving staff productivity which will in turn ensure logistics efficiency.

Regarding control variables, the level of experience and company size show an insignificant positive effect on logistics performance. This suggests that changes in these variables may not significantly impact the logistics performance of companies in Cameroon. The lack of significance in these variables aligns with some prior studies that found mixed results regarding the influence of company size on logistics performance (Adebanjo *et al.,* 2017; Zhao *et al.,* 2018).

5.0 CONCLUSION AND RECOMMENDATION

Conclusion

Technology adoption (TA), digital skills (DS) show a significant positive influence on logistics performance while digital infrastructure (DI) has an insignificant positive influence on logistics performance. The control variables of experience of respondents (Esp), and company size

(Comsize) all insignificantly influence logistics performance. The overall model is exceptionally robust with a high R-squared value of 0.4758, reinforcing its explanatory power. These results resonate with Benson *et al.,* (2016), emphasizing the importance of EDI application support and staff training for logistics efficiency. The regression results highlight the influence of digitalization components, including technology adoption (TA), digital infrastructure (DI), and digital skills (DS), on logistics performance (LP). The findings indicate that an increase in technology adoption and digital skills positively impacts logistics performance. However, digital infrastructure exhibits an insignificant effect on logistics performance. The control variables, level of experience, and company size also show insignificant effects on logistics performance. In conclusion, the results suggest that specific elements of digitalization, such as technology adoption and digital skills, contribute significantly to enhancing logistics performance.

Recommendations

As concerns the effect of Digitalization on Physical distribution in logistics related companies in Cameroon, Organizations are advised to focus on increasing technology adoption (TA) to positively impact logistics performance. Implementing cutting-edge technologies, such as IoT and automation, can result in efficiency gains and an overall improvement in distribution and all logistics operations. As relates to the effect of Digitalization on customer service in Logistics related companies in Cameroon , companies should leverage the findings related to digital skills (DS) and recognize the critical role of a digitally skilled workforce in attending to customers' requests and driving logistics performance. Investing in training programs and fostering a culture of continuous learning will contribute to workforce readiness for digital advancements and thus improvement in customer service. While digital infrastructure (DI) did not show a significant impact in the study, it is still recommended that logistics companies ensure the robustness and scalability of their digital infrastructure.

This write up is crucial for Cameroon's economic growth and sustainability. Here are some contributions to theory, practice, and policy:

Contributions to Theory

Digitalization and Logistics Performance in Cameroon: This study investigates the impact of digitalization on logistics performance in Cameroon, focusing on the specific challenges and opportunities faced by logistics companies in the country. This contributes to the existing body of knowledge on digitalization in logistics, particularly in the context of sub-Saharan Africa.

Contributions to Practice

Digitalization Strategies for Logistics Companies: The study provides practical recommendations for logistics companies in Cameroon on how to effectively implement digitalization strategies, such as leveraging technology for real-time tracking, automation, and data analysis to improve efficiency and reduce costs. This will improve their digitalization efforts and enhance their overall performance.

Contributions to Policy

Stakeholder Support for Digitalization in Logistics: The study recommend policy initiatives that can inplemented to support the digitalization of the logistics sector, such as providing incentives for companies to invest in digital technologies or establishing regulations to promote the use of digital solutions in logistics.

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Appendix

Raw results

```
. reg LPn TAn DIn DSn Esp Comsize

      Source |       SS           df       MS          Number of obs   =       234
-------------+----------------------------------        F(5, 228)       =     41.40
       Model |  1.79819744          5  .359639489        Prob > F        =    0.0000
    Residual |  1.98084086        228  .008687899        R-squared       =    0.4758
-------------+----------------------------------        Adj R-squared   =    0.4643
       Total |   3.7790383        233  .016219049        Root MSE        =   .09321
```

```
         LPn |  Coefficient  Std. err.      t    P>|t|     [95% conf. interval]
-------------+----------------------------------------------------------------
         TAn |   .2209167   .0670347     3.30   0.001      .08883    .3530035
         DIn |     .17934   .0806312     2.22   0.027     .0204625   .3382175
         DSn |   .3306225   .0641992     5.15   0.000     .2041229   .4571222
         Esp |  -.0007105   .0010662    -0.67   0.506    -.0028113   .0013904
     Comsize |  -2.12e-06   4.22e-06    -0.50   0.616    -.0000104   6.20e-06
       _cons |   .0580002   .0140533     4.13   0.000     .0303093   .0856911
```

```
. vif

    Variable |       VIF       1/VIF
-------------+----------------------
         TAn |      2.64    0.378259
         DIn |      2.63    0.380382
         DSn |      1.99    0.501414
         Esp |      1.05    0.953460
     Comsize |      1.02    0.983321
-------------+----------------------
    Mean VIF |      1.87
```

```
. hettest

Breusch–Pagan/Cook–Weisberg test for heteroskedasticity
Assumption: Normal error terms
Variable: Fitted values of LPn

H0: Constant variance

    chi2(1) =   92.51
Prob > chi2 = 0.0000
```

VIF Results

The results of the objective were validated using the vif results presented in table 4.19.

Variable	VIF	1/VIF
TA	2.64	0.378259
DI	2.63	0.380382
DS	1.99	0.501414
Esp	1.05	0.95346
Comsize	1.02	0.983321
Mean VIF	1.87	

Source: Author's Construct, (2024)

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