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TRANSPORT LOGISTICS AND WORKFORCE QUALITY: EVALUATING ACCESSIBILITY AND HUMAN RESOURCE QUALITY IN SELECTED NIGERIAN ORGANIZATIONS

Summary. This paper investigated how transport services affect the quality of work in selected organizations in Lagos Nigeria. As one of the most populous cities in Nigeria, Lagos deals with unique transport issues that impact the productivity and wellbeing of its workforce, with the region's dynamic urban landscape that creates challenges and opportunities in the transportation system. A survey design was employed to gather data from 402 employees of the selected organizations sampled from a population of 6150 using research advisor. A structured questionnaire was employed to bring together the data for the study via random sampling technique. Descriptive and inferential analyses which included frequencies, percentages, mean, standard deviation and regression analysis were used to analyse the data. The findings revealed that availability of transport logistics services (t = 5.837, β = 0.313, $\rho \leq 0.05$) had positive and significant effects on access to quality workforce, and reach to quality suppliers (t = 6.438, β = 0.308, $\rho \leq 0.05$) significantly affects Cost of Transport logistics. On the overall, transport

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services in the study areas had a positive and significant effect on the quality of work in Lagos state, Nigeria. This study concluded that the quality of work in Lagos, Nigeria is significantly predicted by transport services. Hence, there is a need to strengthen the transport services so as to improve access to quality workforce, and the cost of transport.

Keywords: transport services, quality of work, cost of transport logistics, identification of quality work and access to quality work force

1. INTRODUCTION

In the fast-developing landscape of Nigeria, characterized by growing industries and urban centres, the efficiency, and accessibility to transport services stand as the backbone that determines quality work across diverse sectors. The entire economic rush is interlaced with the lives of millions of inhabitants, who rely on a perfectly functioning transport net. Informed by a scientifically based insight into the dynamic socio-economic fabric within which Nigeria is woven, this research enterprise goes deep into an intensive understanding of the relationship that subsists between transport services and quality work. Through an emphasis on important considerations that includes but not limited to the availability of transportation options, the costs which may be associated with different vehicles, sturdiness of infrastructure, quality of employees, ease at identifying skill employees, easy access to good suppliers, and finally the effectiveness in customer care. This study aims to unearth the intricate levels of this relationship. In so doing, it seeks not just to understand the telling of the challenges that are faced, but also sheds insight into possible pathways towards a future where transport services optimally have accessibility and efficiency. Thus, enhancing the overall quality of work in Nigeria.

In the corridors of the United States transportation sector, a complex interplay of challenges significantly impacts the quality of work, specifically in terms of accessibility and efficiency. One prominent issue is the urban-rural divide, where urban areas often enjoy advanced transportation infrastructure, contrasting sharply with underdeveloped systems in rural regions [20]. This divide not only affects the accessibility of employment opportunities for rural dwellers but also hampers businesses in these areas from efficiently reaching broader markets. Lastly, inadequate public transportation system, various cities of the United States limit accessibility to job opportunities, particularly for low-income individuals residing in suburbs or areas with limited public transit coverage [10]. Limited access to reliable transportation means restricted access to work, hindering socio-economic mobility and exacerbating income inequalities. With all these being said, the challenges within the United States transportation sector, from urban-rural disparities to workforce shortages and last-mile delivery complexities, significantly impact the accessibility and efficiency of work.

In the web of Europe's transportation sector, challenges abound that influence the quality of work concerning accessibility and efficiency. One prominent challenge is the ongoing issue of traffic congestion in major European cities. Congested roadways not only impede the accessibility of workplaces but also reduce the efficiency of daily commutes, impacting work-life balance and job satisfaction [28]. Furthermore, the lack of integration and standardization in public transportation systems across European countries poses challenges for cross-border commuters. Varying ticketing systems and schedules complicate daily commutes, affecting the accessibility of workplaces and the efficiency of travel for employees [11]. Such barriers limit the opportunities for professionals to seek employment in neighbouring countries, impacting

workforce mobility. Moreover, environmental concerns in Europe have led to the promotion of sustainable transportation modes, such as cycling and public transit. While environmentally friendly, these modes face challenges related to infrastructure development and safety concerns, influencing accessibility for daily commuters [16].

The Asian transportation sector, a busy network of diverse infrastructures and modes, faces a lot of challenges that significantly influence the quality of work concerning accessibility and efficiency. One pressing issue is rapid urbanization, leading to congestion in major Asian cities. This congestion not only limits the accessibility of workplaces but also hampers daily commutes, impacting work-life balance and overall job satisfaction [15]. Furthermore, Asia struggles with a significant digital divide. While digital technologies are transforming the global workforce, the uneven access to these technologies in many Asian regions creates disparities in job opportunities. Limited access to online platforms hampers the accessibility of employment options, particularly for remote or rural populations, affecting workforce mobility [14]. Additionally, Asia's transportation sector faces challenges in ensuring the safety and reliability of public transportation. Safety concerns, especially for women, affect the accessibility of public transit, particularly during late hours, impacting employment choices and overall work efficiency [23]. Moreover, the lack of reliable schedules and overcrowding issues diminishes punctuality and work-related activities [9].

Environmental sustainability is another critical concern. Asia experiences high levels of air pollution due to transportation emissions, impacting the health of the workforce. Poor air quality impacts the accessibility of workplaces and, in the long term, can lead to increased health-related absenteeism, reducing overall work efficiency [33]. In Africa's telecommunication sector, employee's performance is intensely influenced by a diversity of obstacles. One persistent problem is inequalities in infrastructures across countries in Africa. Even though city centres frequently vaunt cutting-edge technology, rural zones often want rudimentary telecommunication substructures. This digital divide affects the effectiveness of workers working in areas with partial resources and connectivity, hindering their output and performance [4]. Furthermore, recurrent outages in power and undependable electrical energy supply in numerous countries in Africa constitute a substantial obstacle. Operations of telecommunication firms depend heavily on electrical energy, and disruptions can interrupt work flow and communication schemes. This discrepancy places strain on workers and can result in reduction in performance owing to operational interruptions [51].

In addition, development of skills and retention of talent are tenacious obstacles. Firms in the telecommunication sector in Africa frequently experience difficulties in retaining trained professionals. The phenomenon of brain-drain, where trained employees move to other districts for improved opportunities, influences the sector's employees. Moreover, the swift evolution of technology demands non-stop training. Insufficient opportunities to training programmes can result in skill gaps amongst workers, hindering their capability to handle advancements in technology [17]. In addition, political volatility and regulatory ambiguities in many countries in Africa produce challenging business environments. Indistinct strategies and abrupt change in regulations can interrupt operations of telecommunication firms, making it problematic for workers to acclimatize rapidly. This ambiguity hinders their security of jobs and total performance [48]. Recognizing and tackling these problems are key for enhancing employee's performance in the telecommunication firms in Africa. Through investment in substructure, provision of regular training programmes, and advocacy for steady regulatory environments, firms in the telecommunication sector can improve their workers' competences and guarantee reliable, first-class service delivery.

In the vibrant tapestry of Nigeria's transportation sector, a plethora of challenges significantly influence the quality of work concerning accessibility and efficiency. One pressing issue is the state of road infrastructure. Despite ongoing efforts, many roads suffer from poor maintenance, leading to traffic congestion, increased commuting times, and challenges in reaching workplaces [41]. This directly impacts the accessibility and punctuality of employees, affecting their productivity. Additionally, Nigeria faces a significant challenge in public transportation. Overcrowded buses and unreliable schedules create challenges in daily commuting, impacting both accessibility and the efficiency of travel [22]. Workers relying on these systems often experience delays, impacting their punctuality and productivity at work. Furthermore, the rise of urbanization has led to increased traffic congestion in major cities like Lagos and Abuja. This congestion not only limits the accessibility of workplaces but also affects the efficiency of business operations, especially in industries relying on just-in-time supply chains [47]. Businesses struggle to maintain efficient operations due to transportation delays and increased costs associated with congestion. Additionally, Nigeria faces challenges related to security on public transportation routes. Incidents of theft and harassment affect the safety perception of public transportation, leading to reduced accessibility as employees might avoid certain routes, impacting their efficiency and peace of mind during commutes [6, 32].

The challenges faced in transportation sectors across America, Europe, Asia, and Africa highlight the critical role of transport services in shaping the quality of work in terms of accessibility and efficiency. From urban congestion in America to digital disparities in Asia, and inadequate road infrastructure in Nigeria, these issues underscore the complex dynamics at play. Understanding how transport services affect accessibility of work is paramount. Recognizing these challenges not only sheds light on the intricacies of the global workforce but also emphasizes the urgency for comprehensive solutions. Therefore, understanding how transport logistics services affect the quality of work (in terms of accessibility) is crucial for this study. Hence, this research delved into -Transport Logistics and Workforce Quality: Evaluating Accessibility and Human Resource Quality in Selected Nigerian Organizations, aiming to uncover vital insights that can pave the way for more accessible, and productive work environments globally.

2. LITERATURE REVIEW

The transport industry in Nigeria, a cornerstone of the nation's economic vitality, is facing multifaceted challenges that hinder its seamless integration with various sectors. A critical gap in the existing literature becomes apparent when delving into the complex interplay between transport services and the quality of work in Nigeria. Despite the sector's significance, comprehensive studies exploring the nuanced relationships between transport services, encompassing aspects such as availability, cost, and quality of infrastructure and manpower, and their impact on the accessibility and efficiency of work, are notably sparse. This gap, discerned through the identification of unfamiliar areas in extant research, poses substantial challenges to businesses, government bodies, and academic institutions, limiting their ability to formulate effective strategies and policies [35, 38].

The limited availability and reliability of transport logistics services intersect with the identification and access to a quality workforce, creating a complex challenge for businesses. Research indicates that inadequate transportation networks inhibit the mobility of skilled professionals, leading to difficulties in recruitment and retention processes [2, 37, 43]. This issue not only impairs industries' ability to secure competent employees but also affects

workforce diversity and inclusivity, hampering overall productivity and efficiency in the workplace. The rising costs associated with transport logistics services intersect with the reach to quality suppliers, disrupting industries' supply chain dynamics. Recent studies demonstrate that escalating transportation expenses strain businesses' procurement budgets, making it challenging to establish sustainable partnerships with reliable suppliers [5, 31, 40]. Consequently, this financial strain affects the timely acquisition of essential materials and goods, leading to production delays, increased lead times, and inefficiencies in overall operations.

Inadequate transport infrastructure and a shortage of skilled manpower within the transportation sector significantly impact the efficiency in servicing customers, affecting businesses and their clientele. Recent research highlights that deficient transport infrastructure, including poorly maintained roads and outdated facilities, results in delays and damages during transit, leading to dissatisfied customers and reputational damage [36]. Additionally, the lack of well-trained personnel in the transportation sector hampers effective communication, coordination, and problem-solving abilities, leading to suboptimal customer service experiences and reduced customer satisfaction. In addressing these critical challenges, this research project aims to bridge the existing gap in literature, leveraging a robust dataset from a diverse range of recent studies. By comprehensively examining the relationships between transport services and the quality of work in Nigeria, this study endeavours to provide actionable insights for businesses, policymakers, and academics, fostering sustainable growth and efficiency across sectors.

Hence, this paper studied the influence of transport services on work quality in Nigeria. The study's precise aims are to:

1. ascertain the influence of transport logistics availability on access to a quality workforce; and
2. investigate the effect of transport logistics cost to quality suppliers.

3. THE CONCEPTUAL MODEL

The conceptual model, Figure 1, presents a linear interaction amongst the independent variables of transport services and the dependent variables of quality of work. The model indicates that as transport services increases, there will be a corresponding increase in quality of work, and therefore each have their variables linking share the same relationship, i.e., when availability of transport logistics increase, there will be a corresponding increase in access to quality workforce, when cost of transport logistics increases, there will be a corresponding increase in reach to quality suppliers; and when quality of transport infrastructure and manpower increase, there will be a corresponding increase in efficiency in servicing customers.

4. THEORETICAL REVIEW

This part of the literature review highlights and discusses various theories that relate to transport services and quality of work as well as its sub variables (access to quality workforce, reach to quality suppliers, efficiency in servicing customers). The theory that relates to this review is the transaction Cost Economics (TCE), service-Dominant Logic (SDL) and supply Chain Management (SCM)**.**

4.1. Transaction cost economics (TCE)

TCE pioneered by Oliver E. Williamson, explores how organizations choose between market and hierarchical governance structures to minimize transaction costs. The theory assumes that actors are bounded rational, opportunistic, and face uncertainty, leading them to make governance decisions based on minimizing the costs associated with transactions [50].

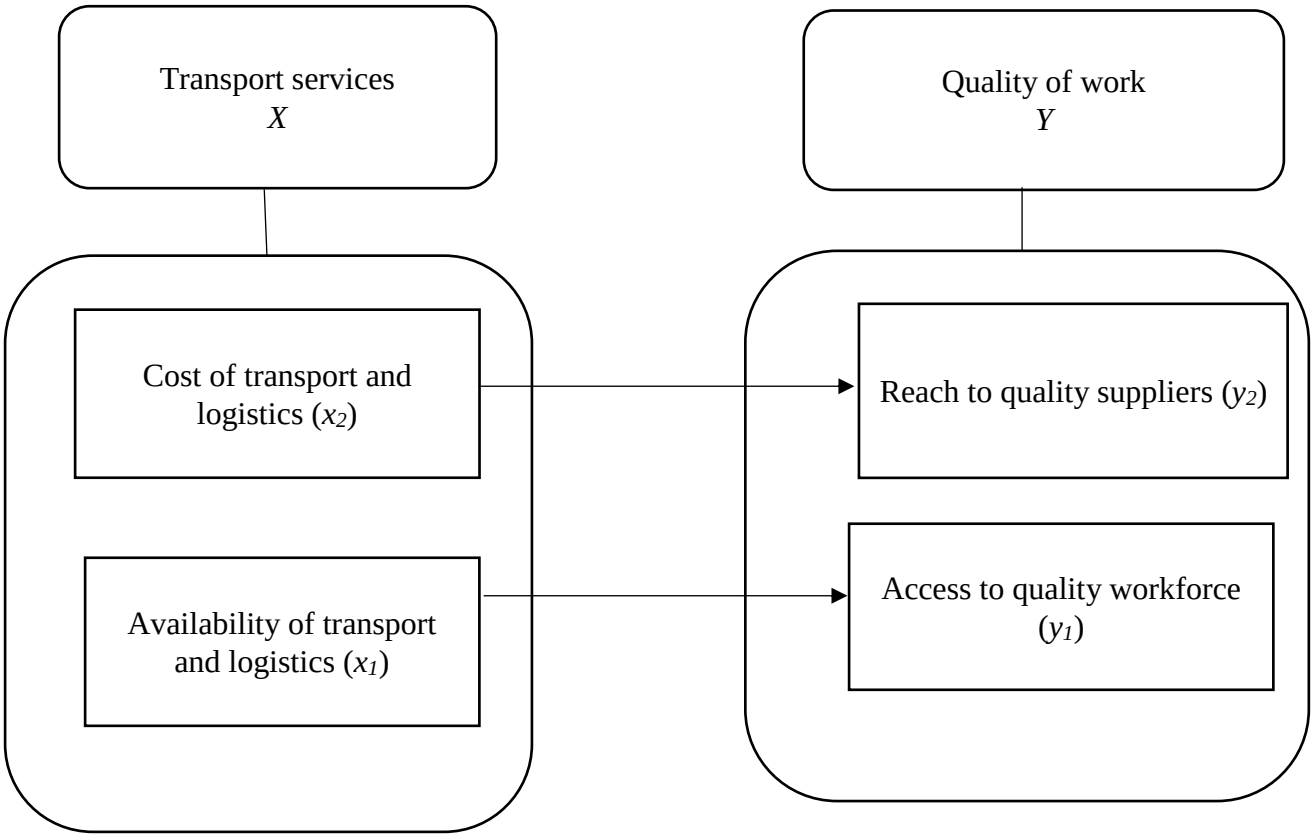

Fig. 1. Conceptual model

Critics argue that TCE oversimplifies human behaviour, assuming individuals act solely out of self-interest. Additionally, there is criticism regarding the practicality of measuring and comparing transaction costs accurately. For instance, scholars like Ref. [29] contend that TCE tends to neglect the role of social relationships in economic transactions, leading to an incomplete understanding of organizational behaviour. Another critique comes from [18], who argue that TCE has limitations in explaining complex, collaborative relationships in the modern business environment. Supporters acknowledge TCE's contribution to understanding how transaction costs impact organizational decisions. [25] argue that TCE provides a robust framework for analysing economic governance, emphasizing the importance of minimizing transaction costs for efficient organizational functioning. Additionally, Ref. [44] supports TCE by emphasizing its applicability to various organizational settings and the practical insights it offers for decision-making.

In the context of transport services and the quality of work, TCE is relevant for explaining decisions related to outsourcing and insourcing. For example, the theory can help elucidate why organizations may choose certain suppliers or decide to perform certain tasks in-house based

on the associated transaction costs. This provides a theoretical lens to understand the governance structures within the transport logistics sector.

4.2. Service-dominant logic (SDL)

SDL initiated by Ref. [49], challenges the traditional goods-dominant logic by emphasizing the co-creation of value through service interactions. It assumes that the client is an active member in the value creation and that service provision is a collaborative process [49]. Critics argue that SDL lacks operational guidance, making it challenging for firms to implement the theory effectively. Ref. [19] suggests that SDL might be more applicable in certain industries than others, and that it may not provide clear strategies for firms to adopt in practice. Another critique, put forward by Ref. [27], states that SDL places too much emphasis on the customer's role, potentially neglecting other vital aspects of value creation.

Supporters contend that SDL provides a more customer-centric and dynamic perspective on value creation. Ref. [49] highlight the theory's adaptability and its ability to capture the evolving nature of business interactions, placing emphasis on relationships and customer experience. Ref. [7] support SDL by emphasizing its relevance in the context of digital and networked environments, where service interactions play a pivotal role in value creation. SDL is pertinent to understanding the dynamics of efficiency in servicing customers within the transport industry. It allows for an exploration of how service interactions between transport providers and customers contribute to the co-creation of value. This is particularly valuable in a sector where customer satisfaction and experience play a crucial role.

4.3. Supply chain management (SCM)

SCM emphases the incorporation and coordination of various elements in the supply chain. Authors like Chopra and Meindl propose that a well-managed supply chain enhances efficiency, reduces costs, and improves overall organizational performance [12]. Critics argue that SCM may be overly optimistic about the benefits of collaboration and integration. Ref. [24] point out that achieving true collaboration across a supply chain can be challenging due to conflicting interests among different stakeholders. Another criticism, raised by Ref. [13], is that SCM sometimes underestimates the complexities of global supply chains, especially in terms of managing risks and uncertainties. Supporters highlight the instrumental role SCM plays in improving operational efficiency and reducing costs. Ref. [30] assert that SCM fosters collaboration, transparency, and responsiveness, ultimately leading to a more agile and competitive supply chain. Ref. [26] support SCM by emphasizing its adaptability to various industries and its role in enhancing total performance of the supply chain.

For the study of transport services and the quality of work, SCM provides a framework for understanding how effective supply chain management can positively influence the reach to quality suppliers. It helps explain how streamlined logistics operations contribute to overall organizational success.

4.4. Theoretical framework

The theoretical framework of this study draws upon Transaction Cost Economics (TCE) and Service-Dominant Logic (SDL) as complementary lenses, integrated within the broader context of Supply Chain Management (SCM). This theoretical framework is designed to offer an all-inclusive comprehension of the interactions amongst transport services and the quality of work,

specifically focusing on the sub-variables of identification and access to a quality workforce, reach to quality suppliers, and efficiency in servicing customers. TCE is a foundational theory for understanding the governance decisions within organizations, particularly in relation to transaction costs associated with market exchanges. In this study, TCE serves as a robust framework for explaining decisions related to the reach to quality suppliers and the governance structures within the transport logistics sector. TCE is particularly suited for elucidating why organizations may choose certain suppliers or decide to perform certain tasks in-house, based on the associated transaction costs. Its emphasis on minimizing costs aligns well with the economic considerations inherent in supply chain logistics decisions.

Complementing TCE, SDL provides a customer-centric perspective, emphasizing value's co-creation via service interactions. In the context of transport services, SDL is highly relevant for understanding efficiency in servicing customers. It allows for an exploration of how service interactions between transport providers and customers support the value's co-creation. The adaptability and dynamic nature of SDL make it a valuable lens for examining the collaborative processes that enhance the quality of work in the transport industry. SCM serves as the overarching framework that integrates TCE and SDL. SCM focuses on the coordination and integration of various elements in the supply chain, providing a holistic view of organizational operations. The integration of TCE and SDL within SCM allows for a comprehensive exploration of the identified sub-variables. While TCE guides the analysis of economic governance decisions, SDL enriches the framework by highlighting the collaborative and service-oriented aspects of transport services.

The selection of TCE and SDL is justified by their complementary nature, offering a more comprehensive understanding than either theory alone. TCE provides insights into the economic considerations and decision-making processes, while SDL ensures a customer-centric and collaborative perspective. The co-application of these theories offers a nuanced and multidimensional framework that is superior to singular theories, allowing for a more holistic examination of the complex relationships within the transport logistics sector.

Alternative theories, such as Resource-Based View (RBV) and Human Capital Theory, while valuable in specific contexts, lack the comprehensive nature necessary for understanding the intricate interactions between transport services and the quality of work. RBV may focus too heavily on internal resources without capturing the dynamic external interactions in transport services. Human Capital Theory, while relevant to workforce considerations, may overlook the broader economic and service-oriented dimensions essential in the transport sector. The selected anchor theories, TCE and SDL, prove superior by encompassing both economic governance decisions and collaborative service processes.

In conclusion, the theoretical framework of this study combines Transaction Cost Economics and Service-Dominant Logic within the overarching context of Supply Chain Management. This integrative approach provides a robust foundation for exploring the identified sub-variables and their influence on work's quality in the transport logistics industry. The co-application of TCE and SDL ensures a comprehensive understanding that surpasses the limitations of alternative theories, contributing to the richness and depth of the theoretical framework.

5. METHODOLOGY

This study employed a survey research design. The survey design has various benefits, including promoting high representativeness, low-cost consequences, an easy pattern for data

collecting, strong statistical significance, and demanding little or no subjectivity from the researcher. It has been adopted by various researchers owing to its value and efficiency, resulting in convincing and significant outcomes in their studies [1, 6, 32]. The study's population consists of manufacturing and a retail company in Lagos state, Nigeria. It focused on the employees of these companies. The companies were selected because they were the largest in both sectors in Nigeria, and also because their businesses heavily rely on transportation logistics services. Employees of the above companies made up 6,150 of the population.

Tab. 1

Proportionate sample size

Banks	Number of employees	Proportionate sample size
Company A (Manufacturing)	2911	173
Company B (Service)	3239	192
Total	6150	365

The research advisor sampling table was utilized to calculate the study's sample size. It produced 365 with a 95% confidence level and a 5% margin of error. In view of this sample size, proportional sampling technique was employed to determine the number of respondents to be selected from the chosen companies. The primary data gathering approach was a self-structured questionnaire sent to respondents. The use of a questionnaire promoted the collection of data from many respondents, guarantees respondents' privacy, and allowed them to express themselves in a variety of ways. The primary data collection approach is very useful in social science research, and it has been employed by some authors [1, 6, 32]. The instrument was divided into segments A, B, and C. Segment A has respondents' demographic info, whereas segment B focused on transport services (availability of transport logistics, cost of transport logistics, and quality of transport infrastructure and manpower), and segment C focused on quality of work (access to quality workforce, reach to quality suppliers in Nigeria and efficiency in servicing customers in Nigeria). The structure of the responses are: SD = Strongly Disagree (1), D = Disagree (2), PD = Partially Disagree (3), PA = Partially Agree (4), A = Agree (5), and SA = Strongly Agree (6).

A pilot study was considered required to establish if the research instrument used in the study was appropriate for further exploration [46]. In essence, a pilot study was done to ascertain the research instrument's reliability and validity. The sample was 10% of the overall main study's sample size (36 copies).

5.1. Model specification

The study's variables were operationalised by means of:

$$Y = f(X) \tag{1}$$

Here, Y and X are the dependent and independent variables respectively. Which implies that Y = Quality of work and X = Transport services.

Where:

y_1 = Access to quality workforce (*IDW*)

y_2 = Reach to quality suppliers in Nigeria (*IDS*)

$X = (x_1, x_2)$
x_1 = Availability of transport logistics (*ATL*)
x_2 = Cost of transport logistics (*CTL*)

The simple equations are specified by means of:

$$IDW = f(ATL) \ldots\ldots \quad (2)$$

$$IDS = f(CTL) \ldots\ldots \quad (3)$$

$$QW = f(ATL, CTL) \ldots. \quad (4)$$

The regression equations are given thus as:

$$IDW = \alpha_0 + \beta_1 ATL + \mu_i \ldots\ldots \quad (5)$$

$$IDS = \alpha_0 + \beta_2 CTL + \mu_i \ldots\ldots \quad (6)$$

The four equations above were assessed to test the influence of transport services on the work's quality in Nigeria. Here α_0 = intercept or constant of quality of work, and it is the mean value of the response variable when the controlled variable is equivalent to zero. The β which is the regression parameter, and it measured the coefficient of transport services that measured the influence of a specified variation in transport services on the work's quality in Nigeria. The μ is the stochastic variable or error term, and it is contained within the model to allow the effect of variables affected the response variables, but are not contained within the model. It was expected that transport services 'measures will have a substantial influence on quality of work.

The Table 2 depicts the decision rule.

Tab. 2

A-priori expectations

S/N	Models	A priori expectations if:
1.	$IDW = \alpha_0 + \beta_1 ATL + \mu_i \ldots\ldots$ (7)	Discard if $\beta_1 \neq 0$; and $P \leq 0.05$; else, do not discard
2.	$IDS = \alpha_0 + \beta_2 CTL + \mu_i \ldots\ldots$. (8)	Discard if $\beta_2 \neq 0$; and $P \leq 0.05$; else, do not discard

6. RESULTS

Four hundred and two (402) duplicates of the questionnaire were administered to the interviewees and 377 (93.8%) were duly completed and returned.

6.1. Effect of availability of transport logistics on access to a quality workforce

Descriptive statistics with a mean of 3.92 out of 6.00 reveals that the majority of the interviewees picked partially agreed with regard to the availability of transport logistic services in Lagos State. And the standard deviation of 1.02 shows divergence of the responses

from the mean. The grand mean of 3.89 out of 6.00 reveals that the majority of the interviewees picked partially agreed regarding the access to a quality workforce in Lagos State, and the standard deviation of 1.07 shows divergence of the responses from the mean. Linear regression was utilized to evaluate how availability of transport logistics affects the access to a quality workforce. The regression results are presented in Table 3.

Tab. 3

Summary of results of linear regression analysis for the effect of availability of transport logistics on the access to quality workforce

Model	Effect of availability of transport logistics on access to quality workforce							
	β	*T*	*Sig*	*Df*	*R*	*Adjusted* R^2	*F*	*Sig*
(Constant)	2.661	12.562	.000	1	.289[a]	.081	34.071	.000[b]
Availability of transport logistics	.313	5.837	.000	375				
a - Dependent variable: access to quality workforce								
b - Predictors: (constant), availability of transport logistics								

Where:

β - is the regression coefficient that measures the strength and direction of the relationship between an independent variable (predictor) and the dependent variable (outcome).

T - refers to the t-statistic (or t-value), which is used to test the statistical significance of individual regression coefficients, including beta coefficients.

Sig - (short for significance) it refers to the p-value, which indicates the probability that the observed relationship or effect occurred by chance under the null hypothesis.

Df - stands for degrees of freedom and it refers to the number of independent values or quantities that can vary in an analysis without violating any constraints.

R - typically refers to the correlation coefficient, specifically indicating the strength and direction of the linear relationship between the independent and dependent variables.

Adjusted R^2 - stands for a refined measure of the goodness of fit of a regression model that accounts for the number of predictors used relative to the number of observations.

F - refers to the F-statistic, which is used to assess the overall significance of a regression model.

Table 3 depicts the outcomes of the linear regression on the influence of obtainability of transport logistics on the access to a quality workforce in Nigeria. The outcomes in Table 3 showed that the correlation coefficient (*R*) of the regression model was 0.289. It shows that there was a positive connection amongst obtainability of transport logistics and access to a quality workforce. However, the results indicated that availability of transport logistics provides for about 8% of the alteration in the response variable; access to a quality workforce. It implies that the adjusted coefficient of determination of the total regression model; adjusted $R^2 = 0.081$, signifying that about 8% of the alteration in access to quality workforce in the selected manufacturing and retail companies in Lagos State, Nigeria is elucidated by the model's significant predictor variables of availability of transport logistics. This indicates that the independent variable, availability of transport logistics, accounts for 8% of the variance in

a quality of workforce. However, the remaining 92% alteration is elucidated by other variables known as exogenic variables not included in this study.

The model's total import, the Analysis of Variance (ANOVA) for the regression coefficient was 0.000 ($p<0.05$) and F-value was 34.071. This implies that availability of transport logistics significantly and positively predicts access to a quality of workforce. Taking into account the result of regression coefficients, the regression model earlier formulated as:

$$y_1 = \alpha_0 + \beta_1 x_1 + \mu_i \ldots\ldots \quad (9)$$

Can now be stated as:

$$Access\ to\ quality\ workforce = 2.661 + 0.313x_1 + \mu_i \quad (10)$$

From Table 3, the regression's equations' constant had an unstandardized coefficient of 2.661. It shows that when all factors are held at constant zero (0), availability of transport logistics of selected manufacturing and retail companies in Lagos State, would be equivalent to 2.661 which is optimistic. The predictive model showed that availability of transport logistics (0.313) is however significant. This implies that the availability of transport logistics has the potential to increase decrease access to quality workforce in Lagos State, Nigeria. The models further revealed that when all the components of availability of transport logistics are improved by one unit, access to quality workforce would increase by 0.313. In view of these outcomes, the null hypothesis (H_{01}) that states that the availability of transport logistics services has no significant effect on the access to quality workforce Lagos State, Nigeria was rejected.

6.2. Effect of cost of transport logistics on reach to quality suppliers

The second objective of the study sought to: examine the influence of cost of transport logistics on identification and reach to a quality supplier. Descriptive statistics with a mean of 3.87 out of 6.00 depicts that the majority of the interviewees picked partially agreed in regard to the cost of transport logistics. And the standard deviation of 1.06 shows divergence of the responses from the mean. Furthermore, the grand mean of 3.86 out of 6.00 depicts that the majority of the interviewees picked partially agreed with regard to reach to quality suppliers, and the standard deviation of 1.03 shows divergence of the responses from the mean. In a bid to verify the hypothesis, linear regression was utilized to determine the effect of cost of transportation on reach to quality suppliers. The outcomes of the regression are depicted in Table 4.

Table 4 depicts the outcomes of the linear regression on the influence of cost of transportation logistics on the reach to quality suppliers in Nigeria. The outcomes in Table 4 showed that the correlation coefficient (R) of the regression model was (0.315). It implies that there was an optimistic association amongst cost of transportation logistics and the reach to quality suppliers. However, the results indicated that cost of transportation logistics provides for about 10% of the alteration in the response variable; reach to quality suppliers. The adjusted coefficient of determination of overall regression model, adjusted $R^2 = 0.097$, signifying that about 10% of the alteration in reach to quality suppliers in the selected manufacturing and retail companies in Lagos State is elucidated by the model's significant predictor variables; cost of transportation logistics. It shows that the independent variable, cost of transportation logistics, accounts for 10% of the variance in reach to quality suppliers. However, the remaining 90%

alteration is elucidated by variables known as exogenic variables that were not included in this study.

Tab. 4

Summary of results of linear regression analysis for the effects of cost of transportation, logistics on reach to quality suppliers in Nigeria

Model	Effect of cost of transportation, logistics on reach to quality suppliers in Nigeria							
	B	*T*	*Sig*	*Df*	*R*	*Adjusted* R^2	*F*	*Sig*
(Constant)	2.677	14.397	.000	1	.315[a]	.097	41.445	.000[b]
Reach to quality suppliers in Nigeria	.308	6.438	.000	375				

a - Dependent variable: cost of transport logistics

b - Predictors: (constant), reach to quality suppliers in Nigeria

Where:

β - is the regression coefficient that measures the strength and direction of the relationship between an independent variable (predictor) and the dependent variable (outcome).

T - refers to the t-statistic (or t-value), which is used to test the statistical significance of individual regression coefficients, including beta coefficients.

Sig - (short for significance) it refers to the p-value, which indicates the probability that the observed relationship or effect occurred by chance under the null hypothesis.

Df - stands for degrees of freedom and it refers to the number of independent values or quantities that can vary in an analysis without violating any constraints.

R - typically refers to the correlation coefficient, specifically indicating the strength and direction of the linear relationship between the independent and dependent variables.

Adjusted R^2 - stands for a refined measure of the goodness of fit of a regression model that accounts for the number of predictors used relative to the number of observations.

F - refers to the F-statistic, which is used to assess the overall significance of a regression model.

The total import of the model; the Analysis of Variance (ANOVA) for the regression coefficient was 0.000 ($p<0.05$) and F-value was 41.445. This implies that the cost of transportation logistics significantly and positively predicts reach to quality suppliers in Nigeria. Taking into account the result of regression coefficients, the regression model earlier formulated as:

$$y_2 = \alpha_0 + \beta_2 x_2 + \mu_{ii} \ldots\ldots \quad (11)$$

Can now be stated as:

$$\textit{Reach to quality suppliers in Nigeria} = 2.677 + 0.308x_2 + \mu_{ii} \quad (12)$$

From Table 4, the regression's equations' constant had an unstandardized coefficient of 2.677. It implies that when all factors were held to constant zero (0), the cost of transportation logistics of selected manufacturing and retail companies in Lagos State, Nigeria was equivalent to 2.677 which is optimistic. The predictive model showed that the cost of transportation logistics (0.308) is however significant. This implies that the cost of transportation logistics has the potential to increase reach to quality suppliers in Lagos State, Nigeria. The models further revealed that when all the components of cost of transportation logistics are improved by one unit, reach to quality supplier would increase by 0.308. In view of these outcomes, the null hypothesis (H_{02}) that specifies that there is no substantial influence of the cost of transport logistics on the reach to quality suppliers in Nigeria was rejected.

7. DISCUSSION OF FINDINGS

The analysis for the first objective contradicted the initial hypothesis that the availability of transport logistics has no substantial influence on the identification and access to a quality workforce in Nigeria. The results of our study demonstrated a notable influence of transport logistics availability on workforce access, suggesting a positive effect on the recruitment and retention of skilled employees. This outcome aligns with the findings of Ref. [21], who also highlighted the importance of transport services in facilitating the identification and access to a quality workforce. By confirming these results, our research emphasizes the critical role of transport infrastructure in shaping labour market dynamics and improving workforce accessibility, particularly in regions such as Nigeria where transportation obstacles can greatly affect economic activities.

Moreover, the correlation between the availability of transportation logistics and the accessibility of the workforce is consistent with existing research on the socioeconomic effects of transportation. For example, Ref. [3] illustrated the positive correlation between transportation infrastructure and work quality in Nigeria. Although their research primarily examined how transportation infrastructure influences worker productivity and satisfaction, the fundamental idea that improved transportation accessibility leads to better work outcomes is echoed in their findings. Likewise, Ref. [39] pointed out the negative impact of high transportation costs on work quality in the Nigerian service industry, underscoring the importance of convenient and cost-effective transportation in creating favourable work environments.

A theoretical perspective like Human Capital Theory (HCT) can provide a deeper understanding of how transport accessibility influences workforce dynamics. HCT suggests that investments in human capital, such as education, skills, and health, are crucial for improving productivity and economic outcomes. By connecting this theory to the transportation framework, we can argue that improved transport infrastructure is equivalent to an investment in human capital. It directly enhances access to job opportunities and training resources, potentially increasing overall workforce productivity and skills. Additionally, examining the results through the lens of Spatial Mismatch Theory can further contextualize the findings within the broader socioeconomic challenges faced by regions like Nigeria. This theory explains how geographic, and transportation barriers lead to the separation of low-income individuals from employment opportunities. By improving transport infrastructure, such mismatches can be mitigated, facilitating better alignment between where people live and where they work.

Essentially, the results of the study validate the significance of transportation services in enabling workforce accessibility and highlight the wider socioeconomic consequences of a strong transport network. By clarifying the connection between transport accessibility and workforce behaviour, the study adds to a more thorough comprehension of the complex relationship between transportation systems and labour market results, thus guiding policy measures designed to enhance both transport infrastructure and labour market effectiveness in Nigeria

For the second objective**,** the analysis conducted resulted in the dismissal of the second hypothesis, which initially proposed that there is no significant effect of transport logistics costs on the identification and reach of quality suppliers in Nigeria. The study's results indicated a substantial impact of transport logistics costs on supplier identification and reach, suggesting a favourable effect on the ability to establish connections with quality suppliers. This finding is consistent with the broader body of literature on the correlation between transportation expenses and supply chain effectiveness. The results are in close agreement with the study carried out by Ref. [45], which examined the influence of transportation expenses on the efficiency of employees in Nigeria. Although their study concentrated on the consequences of transportation costs on worker productivity, the fundamental concept of transportation costs impacting economic activities and results is in harmony with the outcomes of this research. Additionally, the favourable correlation between transportation costs and supplier recognition echoes the conclusions of various other studies that emphasize the crucial role of transportation in moulding supply chain dynamics and commercial activities.

Furthermore, the importance of transportation expenses in supplier recognition highlights the wider socio-economic consequences of transportation obstacles. Research conducted by Ref. [42] and [34] has stressed the significance of logistics efficiency and transportation workforce in improving effectiveness in different industries in Nigeria. Although their research may have a slightly different focus compared to the study's emphasis on supplier recognition, the overall message of transportation's crucial function in enabling economic activities and promoting business competitiveness stays unchanged. Incorporating Transaction Cost Economics (TCE) could offer a theoretical foundation that explains the economic reasoning behind these findings. TCE focuses on exchange costs and organizational structures to manage these costs. In this study's context, TCE could clarify how high transport logistics costs act as transaction costs that could hinder or encourage the restructuring of supplier relationships and sourcing strategies to reduce these costs.

Moreover, exploring the concept of Economic Geography could enhance this discussion by examining how economic activities' distribution impacts business practices and economic outcomes. By using this perspective, the study could investigate how geographical and transportation factors influence the economic rationale behind supplier selection and maintenance, offering a deeper comprehension of spatial dynamic forces in supply chain management. To summarize, the outcomes of the study provide treasured intuitions into the significant influence of transport logistics expenses on supplier identification and reach in Nigeria. By clarifying the connection between transportation costs and the dynamics of the supply chain, this research contributes to a more comprehensive comprehension of the intricate interactions between transportation systems and economic activities. These observations hold great significance for policymakers and stakeholders who aim to tackle transportation obstacles and improve the efficiency of the supply chain in Nigeria.

8. CONCLUSION

This investigative research offered an intuition into how the factors of transport services (availability of transport logistics and cost of transport logistics) affect worker's performance (access to quality workforce and reach to quality suppliers in Nigeria). Moreover, the application of regression analysis was specifically beneficial to ascertain the total fit of the model.

9. RECOMMENDATIONS

In view of the background, objectives and outcomes, the subsequent recommendations are well-thought-out to be compulsory:

1. Stakeholders should promote sustainable transport modes, such as public transit, cycling, and walking, to reduce environmental impacts and alleviate traffic congestion. Encouraging the adoption of electric vehicles and investing in renewable energy sources can contribute to a greener and more sustainable transport system.
2. Governments and industry groups need to support training programs for transport professionals to improve their skills. By focusing on safety, customer service, and technical expertise, the quality of transport services can be enhanced, leading to better work results.

10. CONTRIBUTIONS TO KNOWLEDGE

10.1. Theoretical contribution

The research enhances understanding by developing a model that explains the connection between transportation services and work quality in Nigeria. By combining different theories like transaction cost economics, service-dominant logic, and supply chain management, the study presents a detailed framework for analysing the impact of transportation services on different aspects of work quality. Moreover, by clearly defining and measuring important terms and variables, the research brings clarity to the theoretical foundations of the study area. This conceptual framework clarity improves comprehension of how transport logistics services influence work quality, ultimately progressing conceptual knowledge in the field.

10.2. Empirical contribution

The study's empirical contribution lies in its analysis of primary data collected through a field survey. By conducting descriptive and regression analysis, the study validates the hypothesized relationships between transport services and work quality indicators. The study offers empirical evidence of the significant impact of transport services on various aspects of work quality, such as access to quality workforce, and suppliers. This offers practical insights for policymakers, practitioners, and stakeholders in the transport and employment sectors. Additionally, the study ensures methodological rigour in data collection and analysis by employing rigorous statistical methods, enhancing the credibility and reliability of its findings. This strengthens the empirical foundation of knowledge in the field of transport logistics services and work quality. The research significantly enhances knowledge by improving

conceptual understanding, expanding theoretical frameworks, and presenting empirical evidence on the correlation between transport services and work quality in Nigeria. These findings enhance academic discussions and guide practical efforts to enhance work quality through better transport services.

11. IMPLICATIONS OF FINDINGS

In view of the background, aims and results of this study on transport logistics services and quality of work, the inference is discussed as follows.

11.1. Management practice

Organizations should consider integrating findings from the study into their strategic planning procedures by understanding the value of investing in efficient transportation services. This could entail creating plans to optimize transportation networks, improve logistics management, and enhance accessibility to support a high-quality workforce and supplier network. Managers can better allocate resources by prioritizing investments in transportation infrastructure, logistics capabilities, and employee training. Recognizing the significant influence of transportation services on work quality, organizations can rationalize resource allocations aimed at improving the quality of workforce and suppliers. Developing key performance indicators (KPIs) related to transportation services can help organizations monitor and assess their impact on work quality outcomes. Metrics like transportation cost per unit, delivery time variance, and workforce satisfaction with transportation services can offer valuable insights into the effectiveness of transportation management practices.

11.2. Industry

Supply chain managers across various sectors can utilize research findings to optimize supply chain operations and boost overall efficiency. Understanding the impact of transportation services on sourcing quality suppliers can help streamline procurement processes and minimize disruptions. Providing top-notch transportation solutions allows companies to stand out from rivals, attract skilled professionals, and cultivate customer loyalty, ultimately strengthening their market position.

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