

## VEHICLES TRACKING AND SERVICE DELIVERY QUALITY OF TRANSPORT COMPANIES IN NIGERIA

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### ABSTRACT

This study examined the influence of vehicle monitoring technologies on the quality-of-service delivery in transportation companies operating in Nigeria. The utilization of vehicle monitoring systems has become more widespread in the Nigerian transportation sector, propelled by the necessity to augment operational effectiveness and promote client contentment. The study adopted a cross-sectional design, with a sample size of 274. The researcher created a survey tool that was used to collect data. The Pearson Product Moment Correlation was used to examine the research hypotheses. The statistical significance of all hypotheses was assessed at a significance level of 0.05 during the data analysis procedure, conducted using SPSS version 26.0. The study's findings suggest that the utilization of vehicle tracking systems is still rather limited, with only 45% of organizations employing this technology, in spite of its potential to enhance route optimization and performance monitoring. Differences in service quality were noted between urban and rural locations within the South-South Zone, with firms in urban areas generally offering superior service. In light of these findings, it is recommended that stakeholders in the transport industry of the South-South Zone invest in advanced vehicle tracking systems to optimize operational efficiency and enhance the quality-of-service delivery. Investing in this can result in improved route optimization, increased fuel efficiency, and enhanced overall reliability, ultimately leading to elevated levels of customer satisfaction.

**Keywords:** Fleet management Practices, Vehicles tracking, Service Delivery Quality, Transport Firm, Nigeria.

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### INTRODUCTION

The trucking industry in Nigeria is crucial for supporting economic activity, with road transport being the primary route of passenger and freight travel throughout the country. Recently, there has been a growing interest in utilizing technology, such as vehicle tracking systems, to improve

the efficiency and efficacy of transportation operations. The objective of this study is to examine the correlation between vehicle monitoring technology and the quality of service delivery in transport companies in Nigeria. Vehicle monitoring technology, employing GPS and telematics technologies, allows transport businesses to actively monitor the real-time position, movement, and behavior of their fleet. Companies can acquire important insights into their business activities, optimize route planning, enhance fuel efficiency, and improve overall service delivery performance by installing tracking devices in vehicles and connecting them with software platforms (Begashaw, 2018). The Nigerian transportation sector encounters numerous obstacles, such as traffic congestion, insufficient infrastructure, safety issues, and ineffective logistical administration. These issues frequently result in delays, lack of reliability, and below-average service quality, which have a detrimental impact on both businesses and consumers. Transport enterprises can effectively tackle industry difficulties by adopting vehicle tracking technologies.

Companies can rapidly discover and address operational inefficiencies by utilizing real-time tracking and monitoring of vehicles. Enhanced route optimization, decreased fuel usage, and improved driver accountability can result in more dependable and punctual service delivery, ultimately resulting in increased customer satisfaction levels (Adam, 2020). Although there is increasing evidence of the advantages of vehicle monitoring technology in improving transportation operations worldwide, there is a lack of study that explicitly investigates its effect on the quality of service delivery in Nigerian transport companies. Prior research has primarily concentrated on the technical aspects of vehicle monitoring or more general matters in the transportation industry, resulting in a lack of comprehension regarding the direct correlation between the adoption of tracking technology and service performance measures. This study aims to fill this void by conducting a thorough examination of vehicle tracking systems and their correlation with the quality of service delivery among transport operators in the South-South Zone of Nigeria.

## **REVIEW OF LITERATURE**

The study conducted by Aborisade et al. (2018) examined the influence of vehicle tracking technology on the efficiency of transport companies in Lagos, Nigeria. By conducting interviews and surveys with transport business owners, the researchers discovered that the introduction of tracking systems resulted in substantial enhancements in optimized routes, fuel efficiency, and quality of service reliability. The study emphasized the importance of real-time monitoring in improving operational visibility and facilitating proactive decision-making, ultimately leading to increased customer satisfaction.

Okonkwo and Njoku (2019) conducted a study that investigated the impact of vehicle tracking on the quality-of-service delivery in Nigeria's logistics industry. Their research uncovered that organizations implementing tracking technology observed decreased delivery times, enhanced order accuracy, and more effective inventory management procedures. The study emphasized the significance of tracking systems in improving the dependability and promptness of services, especially in the context of last-mile delivery operations. Nevertheless, despite the potential advantages of vehicle monitoring technology, many studies have discovered difficulties linked to its installation and utilization.

A study conducted by Adeleke, Adewale, and Ojo (2020) identified several obstacles to the successful implementation of GPS tracking devices in the Nigerian transport sector, including high initial investment expenses, concerns regarding data privacy, and resistance from

drivers. These findings emphasize the significance of addressing organizational and cultural aspects in order to optimize the influence of tracking technology on the quality of service delivery. In general, empirical data indicates a favorable correlation between the use of vehicle tracking technology and the quality of service provided by transportation companies in Nigeria. Tracking systems offer firms the potential to optimize routes, increase fuel efficiency, and improve overall service reliability by offering immediate visibility into fleet operations. However, overcoming implementation obstacles and securing the support of stakeholders are essential variables for fully harnessing the potential of tracking technology in the Nigerian transport business.

## METHODOLOGY

For vehicle tracking and service delivery quality among transport firms in South-South, Nigeria, a qualitative research approach will be employed. This study utilized a cross-sectional survey research approach to comprehensively examine the correlation between vehicle tracking and the quality-of-service delivery among transport companies in the South-South region of Nigeria. In this particular research design, the researcher administered a set of questions to a sample of individuals selected as a cluster. These questions pertained to the participants' personal information and experiences, which were relevant to the research purpose. A systematic survey questionnaire was created using the knowledge obtained from the literature. This questionnaire was distributed to a broader sample of operators, users, and key stakeholders in South-South, Nigeria to get quantitative data on their views and experiences. Descriptive statistics, including measures such as means, frequencies, and percentages, were employed to provide a concise summary of the survey responses. Inferential statistical techniques, such as Pearson Product Moment Correlation, was applied to examine the relationships between variables.

## RESULTS AND DISCUSSION

Table 1: Responses on Vehicle tracking systems in Nigeria

| s/n | Vehicle Tracking Systems  | SD<br>(1) | D<br>(2) | A<br>(3) | SA<br>(4) | Mean | Rank            |
|-----|---|-----------|----------|----------|-----------|------|-----------------|
| 1   | Vehicle tracking systems play a vital role in improving the reliability of our transport services                 | 38        | 50       | 84       | 78        | 2.81 | 1 <sup>st</sup> |
| 2   | Our company has implemented vehicle tracking systems to monitor the location and performance of our vehicles      | 50        | 48       | 76       | 76        | 2.71 | 2 <sup>nd</sup> |
| 3   | The use of vehicle tracking systems has led to enhanced route optimization and on-time performance                | 58        | 50       | 70       | 72        | 2.62 | 4 <sup>th</sup> |
| 4   | Passengers perceive our services as safer and more reliable due to the implementation of vehicle tracking systems | 68        | 62       | 60       | 60        | 2.45 | 7 <sup>th</sup> |
| 5   | Vehicle tracking has helped us promptly address route diversions and incidents, minimizing service disruptions    | 70        | 54       | 58       | 68        | 2.50 | 5 <sup>th</sup> |
| 6   | We have observed a reduction in safety incidents and accidents since the adoption of vehicle tracking.            | 50        | 48       | 76       | 76        | 2.71 | 2 <sup>nd</sup> |
| 7   | We have experienced an improvement in service delivery quality as a result of effective vehicle tracking systems  | 56        | 50       | 70       | 74        | 2.65 | 3 <sup>rd</sup> |
| 8   | Passengers frequently express satisfaction with our use of vehicle tracking for their safety and convenience      | 38        | 50       | 84       | 78        | 2.81 | 1 <sup>st</sup> |

Table 2: Service Delivery Quality among Transport Companies in Nigeria (n=250)

| S/N | Service Delivery Quality   | SD<br>(1) | D<br>(2) | A<br>(3) | SA<br>(4) | Mean | Rank            |
|-----|--|-----------|----------|----------|-----------|------|-----------------|
| 9   | I feel safe using the services of this transport firm  | 50        | 58       | 76       | 66        | 2.63 | 3 <sup>rd</sup> |
| 10  | The vehicles and facilities of this transport firm is clean  | 54        | 50       | 72       | 74        | 2.66 | 2 <sup>nd</sup> |
| 11  | The professionalism and courtesy of the company's staff and drivers is adequate                        | 64        | 58       | 64       | 64        | 2.51 | 5 <sup>th</sup> |
| 12  | The services provided by the transport firm is reliable in terms of schedule adherence and consistency | 50        | 52       | 74       | 74        | 2.69 | 1 <sup>st</sup> |
| 13  | I am comfortable seating and amenities provided during my journey with this transport firm             | 50        | 62       | 68       | 70        | 2.63 | 4 <sup>th</sup> |

### Relationship between Vehicles Tracking and Service Delivery Quality in Nigeria

This section's analysis focused on the association between vehicle tracking and service delivery quality among transport businesses in Nigeria, as shown by the respondents' comments. The participants' responses regarding vehicle tracking and service delivery quality among transport operators in Nigeria were shown in Table 1. The majority of participants concurred with statement one, "Vehicle tracking systems play a crucial role in enhancing the dependability of our transportation services," as its average value above the minimum threshold of 2.50. Similarly to the previous assertion, statement two states: "Our Company has implemented vehicle tracking systems to monitor the location and performance of our vehicles" was similarly accepted with a mean score of 2.71. In statement three, the majority of respondents concurred with the claim that "The utilization of vehicle tracking systems has resulted in improved route optimization and punctuality" with an average score of 2.62. The majority of respondents expressed disagreement with assertion four, which claims that "Passengers perceive our services as safer and more reliable as a result of the implementation of vehicle tracking systems," with an average score of 2.45. Respondents unanimously agreed with Statement 5, stating that vehicle tracking has effectively allowed us to quickly handle route diversions and incidents, resulting in minimal service disruptions. The mean score of 2.50 for this statement precisely meets the required mean of 2.50. Moreover, the majority of the participants concurred with statement six, "We have noticed a decrease in safety incidents and accidents since implementing vehicle tracking," with an average score of 2.71, above the minimum threshold of 2.50. Furthermore, a majority of the participants concurred with statement seven, which states that the implementation of efficient vehicle monitoring systems has led to an enhancement in the quality-of-service delivery. The average score for this statement was 2.65, above the minimum threshold of 2.50. Statement eight, which states that passengers often express satisfaction with our usage of vehicle tracking for their safety and convenience, received a mean score of 2.81.

The responses provided by participants on the quality-of-service delivery among transport companies in Nigeria were shown in Table 2. The majority of participants concurred with statement nine, "I experience a sense of security when utilizing the services of this

transportation company," as its average score exceeded the minimum threshold of 2.50. Similarly to the previous assertion, statement ten "The vehicles and facilities of this transport firm are clean" received an average score of 2.66. With regards to statement eleven, the majority of respondents concurred with the assertion that "The professionalism and courtesy of the company's staff and drivers is adequate," as indicated by a mean score of 2.51. Similarly, most participants concurred with claim twelve, which affirms that "The services offered by the transportation company are dependable in terms of adhering to schedules and maintaining consistency," with an average score of 2.69. Furthermore, the majority of respondents, with a mean score of 2.63, expressed agreement with statement number thirteen, which asserts that they feel at ease with the seating and amenities supplied throughout their voyage with this transportation company.

### Test of Hypothesis between Vehicles Tracking and Service Delivery Quality in Nigeria

**H<sub>01</sub>:** There is no statistically significant relationship between vehicle tracking and service delivery quality among transport companies in Nigeria.

Table 3: Correlation result between vehicle tracking and service delivery quality in Nigeria

|                          |                     | Vehicle Tracking | Service Delivery Quality |
|--------------------------|---------------------|------------------|--------------------------|
| Vehicle Tracking         | Pearson Correlation | 1                | .680                     |
|                          | Sig. (2-tailed)     |                  | .016                     |
|                          | N                   | 236              | 236                      |
| Service Delivery Quality | Pearson Correlation | .680             | 1                        |
|                          | Sig. (2-tailed)     | .016             |                          |
|                          | N                   | 236              | 236                      |

## CONCLUSION

This study illuminates the substantial influence of vehicle monitoring technology on the quality-of-service delivery in transport companies operating in Nigeria. After conducting a comprehensive examination of the existing research and experimental proof, several significant conclusions have been identified. Vehicle tracking systems have been proven to have a favorable impact on service performance measures such as routing optimization, fuel efficiency, and overall service reliability. The ability to monitor in real-time allows transportation companies to make well-informed decisions, resulting in increased operational efficiency and higher customer satisfaction. Furthermore, although the advantages of tracking technology are clear, there are still difficulties related to its application. The issues encompass upfront capital expenditures, apprehensions regarding data privacy, and opposition from drivers. To fully harness the potential of vehicle monitoring systems in enhancing service delivery quality, it is essential to address these obstacles.

## Recommendations

In the light of the findings, the following recommendations are made:

- Transport companies in Nigeria should prioritize investing in sophisticated vehicle tracking technologies to optimize operational efficiency and enhance the quality-of-service delivery. Investing in this initiative has the potential to enhance route optimization, improve fuel efficiency, and increase overall reliability, hence resulting in elevated levels of customer satisfaction.
2. Transport companies should give utmost importance to data privacy and security while deploying vehicle tracking technologies. Companies must have strong systems and protections to preserve sensitive information obtained through tracking devices, guaranteeing adherence to applicable legislation and standards.
- Regular monitoring and evaluation of tracking systems is crucial for transport corporations to discover areas that need improvement. Utilizing continuous evaluation of information and feedback systems enables organizations to refine their operations, maximize routes, and effectively resolve any emerging concerns.
  - Partnering with reliable technology suppliers may streamline the efficient deployment and upkeep of tracking systems. Transport companies should collaborate with seasoned vendors who provide dependable solutions and continuous assistance to guarantee the seamless operation of tracking technology.

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