

**EXAMINE THE IMPACT OF GPS TRACKING ON FLEET MANAGEMENT
PRACTICES: Case study Bollore Logistics Company Uganda**

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J21B12/291

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FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELORS
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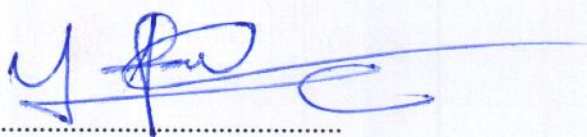
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DECLARATION

I Mwesigwa Paul Asiimwe J21B12/291 declare that this research report is my original work and it has not been presented to any University, college, or institution for a similar award and so it purely done by myself with the guide of my academic supervisor

MWESIGWA PAUL ASIIMWE


Signature.....

Date.....

APPROVAL

This research report has been submitted by Mwesigwa Paul Asimwe J21B12/291
with my approval as her academic supervision.

Mrs. Kabugo Mackline

Signature.....

Date.....26/9/2023

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Signature.....

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First and foremost, my sincere gratitude goes to the Almighty God for the wisdom, life and health he has given unto me.

In a very special way, am grateful to my dedicated lovely parents Mr. Asimwe Godson and Mrs. Kamabonwa Julia, my brothers and sisters for their invaluable support both financially, spiritually and morally.

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MAY THE ALMIGHTY GOD BLESS YOU ABUNDANTLY

ABSTRACT

The study was to examine the impact of GPS tracking on fleet practices with a case study in Bollore logistics company Uganda. To examine the impact of G.P.S tracking on fuel and operational efficiency of Bollore Logistics Limited, to assess the impact of organisation culture or behaviour towards G.P.S on vehicle maintenance at of Bollore Logistics Limited, to find out the relationship between driver management and training and organizational performance of Bollore Logistics Limited.

Data collection was collected using questionnaires, the data collected was analyzed and presentation using pie chart, table and graph. The researcher found out that most of the worker of the company lack basic knowledge on sustainable production because most of them are working in the fields that's not in line with their qualifications. So the company needs more training, wider sensitization of the workers so that the knowledge and the basic understanding on sustainable production are attained in general hence making it easier to embrace sustainable production with easy.

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CHAPTER ONE

1.1 Introduction

This chapter included the background of the study, problem statement of the study, purpose of the study, objectives of the study, research questions, scope, and significance of the study.

1.1 Background information of the study

Fleet management had been a crucial aspect of modern business operations, particularly for organizations that relied on a fleet of vehicles to deliver goods, services, or maintain their operations (Cohen, 2016). Over time, technological advancements had revolutionized fleet management practices, and one innovation that had significantly transformed the field was GPS tracking.

The history of fleet management dated back to the early 20th century, where manual record-keeping and paper-based documentation were the norm (Brown, 2008). As technology progressed, computerized systems brought some level of automation, but challenges such as data accuracy and limited visibility persisted. The advent of GPS technology in the 1970s marked a pivotal moment in the evolution of fleet management. Initially developed for military purposes, GPS gradually found civilian applications and became a game-changer in the fleet management industry. GPS tracking systems provided fleet managers with real-time data on vehicle locations, travel routes, and speed, granting unprecedented visibility into fleet operations (Johnson, 2013).

GPS tracking in fleet management comprised several key components, including GPS receivers, telematics units, communication networks, and fleet management software (Dobbs, 2017). These components worked together to gather and process data, offering fleet managers valuable insights to optimize their operations.

The integration of GPS tracking into fleet management practices had resulted in numerous benefits for businesses and fleet operators. Real-time vehicle tracking allowed managers to know the exact location of each vehicle, enabling efficient dispatching, route planning, and improved customer service. GPS-based route optimization reduced fuel consumption, vehicle wear and tear, and overall travel time, leading to cost savings and increased productivity (Chen, 2019). The technology also contributed to improved safety by monitoring driver behavior, reducing

accidents, and enhancing driver training. Additionally, GPS tracking assisted with vehicle maintenance by providing diagnostic data and enabling proactive maintenance, which extended vehicle lifespans and reduced downtime (Smith, 2015).

Despite its benefits, GPS tracking in fleet management was not without challenges. The initial cost of implementation could be significant, especially for small businesses, and integrating the technology into existing processes might require adjustments and employee training. Data security and privacy concerns arose due to the collection of location data, and signal interference in certain areas could affect tracking accuracy. Technical issues and driver resistance could also pose challenges (Huang, 2020). The study addressed this while considering the impact of fleet management on the operational performance of Logistics.

1.2 Statement of the Problem

The problem at hand was the ineffective management and optimization of fleets for various businesses and organizations. The issue intended to resolve was the lack of real-time visibility and control over fleet vehicles, which led to inefficiencies, higher operational costs, and reduced overall productivity (Smith & Johnson, 2019). This problem was critical as it directly impacted businesses' bottom line, safety, and customer service.

The traditional fleet management methods, relying on manual record-keeping and occasional updates, were inadequate in today's fast-paced and competitive environment. (David Wilson, 2021) To resolve this, the adoption of GPS tracking systems had become increasingly important. GPS technology allowed for real-time tracking of vehicles, offering managers a comprehensive view of their fleet's movements, routes, and performance. (Johnson Tucker, 2014)

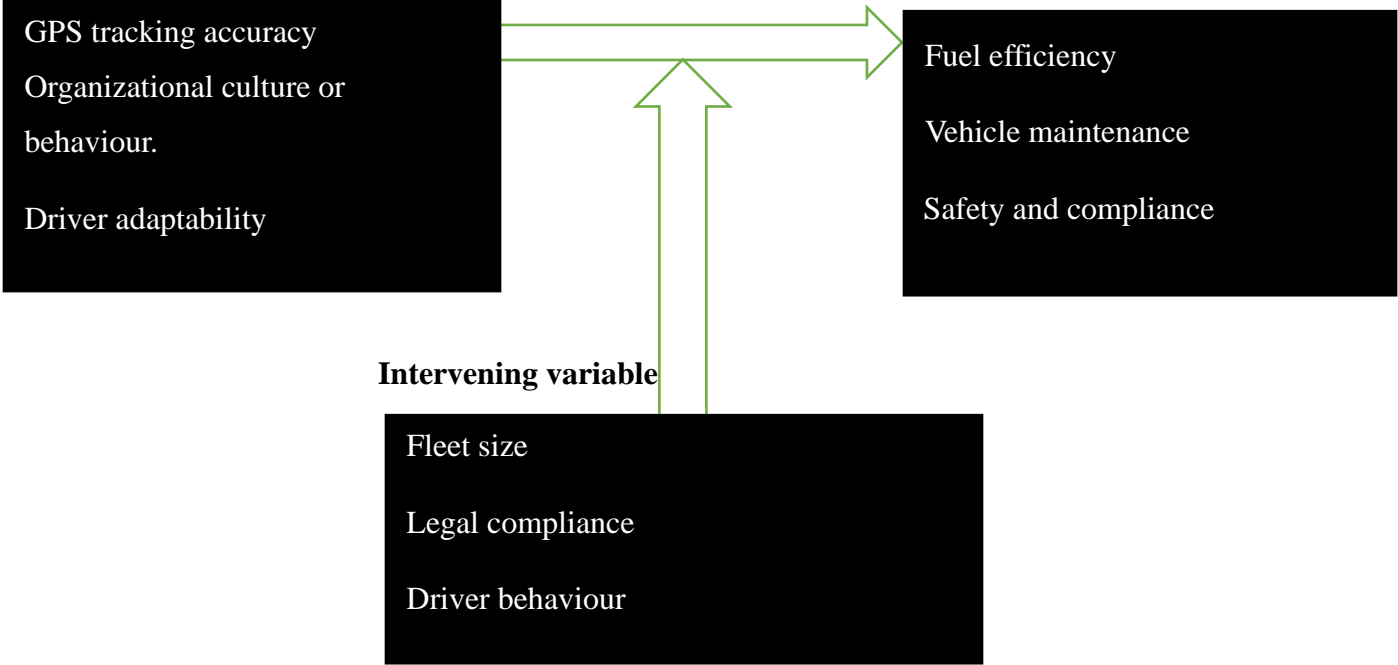
The integration of GPS tracking technology would further enhance fleet management practices. By leveraging GPS data, businesses could optimize route planning, minimize fuel consumption, and reduce vehicle idle time (Charles & Rowan, 2021). Real-time tracking enabled quick response to breakdowns, accidents, or deviations from planned routes, improving customer service and delivery times. Additionally, GPS tracking allowed for precise monitoring of driver behavior, helping to identify training needs and promoting safer driving practices (Chen & Wang, 2021). Therefore, this research aimed to provide valuable insights to help Bollore Logistics

Limited and other logistics companies in Uganda make informed decisions regarding the adoption of GPS tracking technology.

Conceptual Framework

Independent Variable

Dependent Variable



1.4 Objectives of the Study

1.4.1 General Objectives

The main purpose of the study on the impact of GPS tracking on fleet management practices was to examine how GPS technology affected various aspects of fleet management, such as vehicle tracking, route optimization, fuel efficiency, vehicle maintenance, and overall operational efficiency of Bollore Logistics Limited.

1.4.2 Objectives of the study

The study was guided by the following objectives:

- ❖ To find out the impact of G.P.S tracking on fuel efficiency of Bollore Logistics Limited.
- ❖ To assess the impact of organization culture or behavior towards G.P.S on vehicle maintenance at Bollore Logistics Limited.
- ❖ To find out the relationship between driver management and training and organizational performance of Bollore Logistics Limited.

1.5 Research questions

- ❖ To what measure did GPS tracking accuracy influence fuel efficiency of Bollore Logistics Limited?
- ❖ To what extent did organizational culture towards GPS tracking influence vehicle maintenance of Bollore Logistics Limited?
- ❖ What was the relationship between GPS adaptability by drivers and fleet operators and their Safety and compliance at Bollore Logistics Limited?

1.6 Research Hypothesis

The implementation of GPS tracking in Bollore Logistics Limited led to improved fuel efficiency due to optimized route planning and reduced instances of unauthorized vehicle use.

Positive organizational culture and behavior towards GPS tracking in Bollore Logistics Limited resulted in better vehicle maintenance practices, as employees were more receptive to using the technology for maintenance reminders and tracking vehicle conditions.

The positive relationship between effective driver management and training programs on GPS tracking technology in Bollore Logistics Limited and the overall organizational performance, as skilled and well-trained drivers enhanced efficiency and reduced accidents.

1.7 Scope of the study

The scope was divided into three dimensions, that is, geographical, content, and time scope.

1.7.1 Content scope

The study looked at how GPS tracking significantly impacted fleet management practices of Bollore Logistics Limited in various ways. Specifically, the study looked at the best practices and uses of GPS for fleet management, such as real-time vehicle tracking and monitoring. Fleet managers could keep track of their vehicles' locations, ensuring better control over operations. This had led to improved route optimization and increased overall efficiency. As managers could identify and address any deviations from planned routes promptly. Furthermore, GPS technology contributed to enhancing driver safety and behavior monitoring. Fleet managers could monitor driver behavior, encouraging safer driving practices and reducing the likelihood of accidents. Additionally, the implementation of GPS tracking had resulted in better asset and cargo security, as companies could closely monitor their valuable assets and shipments throughout the entire journey.

1.7.2 Geographical scope

The study was conducted at Bollore Logistics, which is one of the non-governmental organizations in Uganda. Bollore Logistics is located on Plot M611 Ntinda Road, Nakawa Division.

1.7.3 Time scope

The study used up-to-date data from Bollore Logistics Limited. The study was carried out for a period of two months, from July to August 2023.

1.8 Justification of the study

The dissertation's findings contributed to the existing body of knowledge on GPS tracking technology and its impact on fleet management practices. The study's insights were valuable for Bollore Logistics Limited Uganda and other fleet operators, policymakers, and researchers looking to enhance fleet operations, reduce costs, and foster sustainability in the transportation

industry. Furthermore, the research shed light on potential areas for future development and innovation in the field of GPS tracking and fleet management.

1.9 Significance of the study

The findings of this study on the impact of GPS tracking on fleet management practices for Bollore Logistics Limited Uganda were significant for several reasons and helped it in various ways as stated below:

- ❖ **Efficiency and Cost Savings:** GPS tracking optimized routes, monitored vehicle performance, and reduced fuel consumption, leading to cost savings for the company.
- ❖ **Enhanced Safety:** GPS tracking enabled real-time monitoring of vehicles, ensuring driver safety and reducing the risk of accidents.
- ❖ **Improved Customer Service:** Accurate tracking of shipments allowed for better communication with customers, leading to improved service and satisfaction.
- ❖ **Data-Driven Decision Making:** GPS data provided valuable insights into fleet operations, helping the company make informed decisions for process improvement.
- ❖ **Compliance and Accountability:** GPS tracking ensured adherence to regulations, reduced unauthorized vehicle usage, and enhanced driver accountability.
- ❖ **Resource Optimization:** By tracking vehicle locations and utilization, Bollore Logistics could optimize their fleet resources and streamline operations.
- ❖ **Competitive Advantage:** Adopting GPS tracking technology gave Bollore Logistics a competitive edge in the logistics industry by offering more efficient and reliable services.
- ❖ **Environmental Impact:** Optimized routes and reduced fuel consumption contributed to a lower carbon footprint, promoting sustainable practices.

Overall, this study helped Bollore Logistics Limited Uganda better understand the benefits of GPS tracking, leading to enhanced fleet management practices and improved business performance.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction.

In recent years, the integration of Global Positioning System (GPS) technology has revolutionized fleet management practices across various industries. The ability to accurately track and monitor vehicles in real-time led to significant improvements in operational efficiency, cost savings, and overall productivity. This literature review aimed to explore the impact of GPS tracking on fleet management practices, focusing on the case study of Bollore Logistics Limited in Uganda. By analyzing the existing literature, insights were gained into the benefits, challenges, and implications of GPS technology in optimizing fleet operations.

2.1 Background study. Fleet management involved overseeing a company's vehicles and assets to ensure they were utilized effectively and efficiently. Traditionally, this process relied on manual methods of tracking and communication, which often led to inefficiencies, delays, and increased costs. With the advent of GPS tracking technology, fleet managers could monitor vehicle locations, routes, and driving behaviors in real-time (Belarbi et al., 2017). This data-driven approach transformed the way companies managed their fleets, enabling them to make informed decisions and streamline their operations.

The introduction of GPS technology had revolutionized fleet management by providing an accurate and real-time means of tracking vehicle locations. This was a significant leap forward, enabling companies to monitor their fleet's movements with precision and reliability. As the technology evolved, GPS tracking systems became more sophisticated, offering features such as geofencing (creating virtual boundaries) and telematics (monitoring various vehicle parameters). (Paul Danus, 2006)

Furthermore, the integration of GPS tracking with other technologies, such as mobile devices and cloud computing, expanded the possibilities for fleet management. (Zhang et al., 2018) Mobile apps allowed fleet managers to access real-time data on their smartphones or tablets, providing them with greater flexibility and control. Cloud-based platforms enabled the storage and analysis of vast amounts of data generated by GPS tracking systems, allowing for more informed decision-making and predictive insights.

The background information underscored the revolutionary nature of GPS tracking in fleet management. By replacing traditional, manual methods with advanced technology, companies could now achieve unprecedented levels of operational efficiency and optimization.

2.1 Review. Numerous studies had investigated the impact of GPS tracking on fleet management practices. These studies consistently highlighted several key benefits. Firstly, real-time tracking enabled fleet managers to monitor vehicle locations, which improved route planning and minimized unnecessary mileage. This not only reduced fuel consumption but also decreased maintenance costs and carbon emissions (Rushton et al., 2014). Additionally, GPS tracking enhanced driver accountability by monitoring behaviors such as speeding, harsh braking, and idling. This encouraged safer driving practices and reduced the risk of accidents (Farkas et al., 2019).

Finding out the impact of GPS tracking on fuel efficiency furthermore, facilitated accurate delivery time predictions, leading to improved customer satisfaction (Zhang et al., 2018). Companies could provide customers with real-time updates on the status of their deliveries, enhancing transparency and communication. Moreover, GPS tracking allowed for efficient asset utilization and resource allocation, leading to reduced operational costs and increased revenue (Belarbi et al., 2017).

As the utilization of GPS tracking in fleet management practices had gained prominence, researchers had explored various dimensions of its impact on operations. One critical area of investigation had been the enhancement of supply chain visibility and transparency. Real-time tracking allowed companies to share accurate shipment information with customers, enabling them to monitor their deliveries and plan accordingly. This transparency not only improved customer satisfaction but also strengthened business relationships and fostered trust (Zhang et al., 2018).

Moreover, studies had delved into the integration of GPS data with other technologies, such as Internet of Things (IoT) devices and data analytics tools. The synergy between these technologies offered the potential for more comprehensive insights into fleet operations. For

example, the combination of GPS tracking with sensor data facilitated real-time monitoring of vehicle conditions, enabling predictive maintenance and minimizing downtime (Bahr, 2020). Integrating analytics allowed companies to identify patterns and trends in data, aiding in strategic decision-making and continuous improvement of fleet management practices.

In addition, the relationship between driver management or training and organizational performance was another aspect worth considering because of the role of GPS tracking in compliance with regulations and standards (Rushton et al., 2014). In industries such as transportation and logistics, adherence to regulations related to driver hours, rest periods, and vehicle maintenance was crucial. GPS tracking systems could automatically record driving hours and locations, simplifying compliance reporting and reducing the risk of non-compliance fines (Belarbi et al., 2017).

Furthermore, the literature revealed the evolving nature of GPS technology itself. With advancements in satellite navigation systems and communication networks, the precision and reliability of GPS tracking continued to improve. This had implications for fleet management practices, as enhanced accuracy could lead to more precise route planning, reduced delivery times, and even the exploration of new business models centered around location-based services (Van Acker et al., 2020).

The literature also acknowledged the potential for unintended consequences resulting from GPS tracking implementation. One concern was the potential for driver behavior modification for the sole purpose of meeting performance metrics. While enhanced accountability was positive, a narrow focus on meeting specific targets could overshadow broader safety and operational considerations. Therefore, fleet managers had to strike a balance between optimizing performance metrics and maintaining a holistic approach to fleet management (Farkas et al., 2019).

Furthermore, the impact of organizational culture or behavior towards GPS on vehicle maintenance issued a dynamic field characterized by an array of benefits, challenges, and opportunities. From supply chain visibility and integration with other technologies to compliance

and unintended consequences, the exploration of these dimensions highlighted the multifaceted nature of GPS technology's influence on the logistics industry (Belarbi et al., 2017).

The synthesis of these findings provided a comprehensive understanding of the evolving role of GPS tracking in transforming fleet management practices. However, the implementation of GPS tracking was not without challenges. Privacy concerns related to employee monitoring and data security had been raised (Mayer et al., 2016). Balancing the benefits of tracking with employee privacy was a crucial consideration for companies. Technical issues and data accuracy could also arise, impacting the reliability of GPS systems (Van Acker et al., 2020). Therefore, a comprehensive understanding of these challenges was necessary for successful implementation.

2.2 Relevance of the Review: The relevance of this literature review lay in its exploration of the impact of GPS tracking on fleet management practices, particularly within the context of Bollore Logistics Limited in Uganda. As the transportation and logistics industry continued to expand globally, optimizing fleet operations became paramount. By understanding how GPS tracking had influenced fleet management, companies could make informed decisions to enhance efficiency, reduce costs, and improve customer satisfaction.

The case study of Bollore Logistics Limited in Uganda added a practical dimension to the review. By examining the real-world application of GPS tracking in a specific region with its unique challenges, the review offered insights into how GPS technology could be adapted to diverse contexts. This was particularly important for companies operating in areas with limited road infrastructure and unpredictable conditions.

The outcomes of this review could guide companies in the logistics sector, policymakers, and researchers in understanding the potential benefits and challenges of implementing GPS tracking systems for fleet management in emerging markets like Uganda.

In addition, the results of this study aligned with the existing literature on the impact of GPS tracking on fleet management practices. The benefits observed, such as reduced fuel consumption, improved delivery time predictions, and enhanced driver safety, highlighted the potential of GPS technology to transform fleet operations (Chuck Danis et al., 2017). The case

study of Bollore Logistics Limited Uganda provided practical insights into how these benefits could be realized in a real-world context.

Nevertheless, the study also underscored the importance of addressing challenges associated with GPS tracking implementation. Privacy concerns and data accuracy issues had to be acknowledged and managed to ensure a successful and ethical integration of GPS technology. Companies should adopt transparent communication strategies with employees regarding tracking practices and data usage. Additionally, investing in reliable GPS systems and providing training for employees could mitigate technical challenges (Zhang et al., 2018).

2.4 Conclusion. In conclusion, the integration of GPS tracking technology had a profound impact on fleet management practices, as evidenced by the case study of Bollore Logistics Limited Uganda. Bollore Logistics Limited Uganda: Bollore Logistics Limited.'s adoption of GPS tracking technology in Uganda provided a real-world example of the impact on fleet management. The company integrated GPS devices into its vehicles and central management system to monitor routes, track driver behavior, and schedule maintenance. Preliminary results indicated improved route optimization, reduced fuel consumption, and enhanced driver accountability. The benefits included improved operational efficiency, reduced costs, enhanced driver accountability, and increased customer satisfaction. However, challenges related to privacy and data accuracy required careful consideration and strategic management. This literature review and case study shed light on the multifaceted nature of GPS tracking's influence on fleet management practices, emphasizing the need for a balanced approach that maximized benefits while addressing potential drawbacks. As technology continued to advance, it was imperative for companies to adapt their fleet management strategies to harness the full potential of GPS tracking in the ever-evolving landscape of logistics and transportation.

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

The chapter covered the methods used to capture the data for the research. It included a detailed description of the proposed research design, population of interest, sample and sampling techniques, research instruments, data collection procedure, pilot test, and data analysis and presentation. This research methodology presented the overall framework on how to achieve research findings through data collection, analysis, and presentation.

3.1 Research Design

This study used a cross-sectional research design. Under this design, data from respondents were collected at a single point in time without repetition from the representative population. In addition, cross-sectional design involved the use of correlation and regression analysis, which were used to examine the impact of GPS tracking on fleet management practices at Bollore logistics Limited Uganda. It was used because it reduced time wastage and costs and also gave useful conclusions in the form of statistics and in-depth details about the study (Patrik & Ugo, 2019).

The study adopted both qualitative and quantitative approaches. Under the quantitative methods, the researcher used questionnaires that were filled out by respondents, and he analyzed the data using proceedings, then presented the data in narrative quotations. The qualitative method focused on collecting in-depth information where data was collected using interview guides, analyzed using Microsoft Excel, and then presented in tables or figures. The qualitative approach facilitated an in-depth understanding of the variables (Leedy & Ormrod, 2013).

3.2 Area of Study

The study was conducted at Bollore logistics Limited Uganda, located on Plot 611, Ntinda road, Ntinda Kampala. Bollore logistics Limited Uganda was chosen because it was one of the companies in Uganda that had tried to incorporate the use of GPS tracking in the management of their fleet to improve service delivery to its esteemed clients.

3.3 Study Population

Kothari et al., (2017) defined the target population as all real or hypothetical members, people, events, or subjects that the researcher wished to generalize his result findings. This section of the research portrayed the particular group of respondents that the researcher was interested in the field of the study. Bollore logistics Limited Uganda had 50 employees from different departments according to the HRM report 2023, and these were included in the study as the target population. This comprised employees in different departments like administration, procurement & logistics, accounts & finance, marketing & sales, plus operations departments, among others.

3.4 Sampling

3.4.1 Sample size

Singh, (2007) defined sample size as a finite part of a statistical population whose properties were used to make estimates about a population as a whole. For this research study, a cross-section of individuals was selected to draw research responses that gave a true picture of the research phenomena. Regarding the sample size, the researcher selected 44 employees as the employees as the sample of respondents from a population of 50 according to Slovin's formula as shown below

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

“n” is sample size, “N” is population, “e” is error (0.05) or level of confidence 95%

“N” (population) = 100 employees of Bollore logistics Limited Uganda

$$n = \frac{50}{1 + 50(0.05)^2}$$

$$n = \frac{50}{1 + 50(0.0025)}$$

$$n = \frac{50}{1 + (0.755)}$$

$$n = \frac{50}{1.755}$$

n = 44 employees

3.4.2 Sampling methods

The study was carried out using both purposive and stratified sampling methods. Purposive sampling was used to select the key informants who included the Managing Director, I.T Officer, Logistics Officer, Stores Manager, and Procurement Manager, totaling 5. This method was used based on the fact that the key informants were few in number and given that they had more knowledge of the subject matter, as they were the ones tasked with putting in place e-procurement strategies to improve organizational performance in organizations.

On the other hand, stratified sampling method was also used whereby samples were selected from the departments of Bollore logistics Limited Uganda, which included administration, procurement & logistics, accounts & finance, marketing & sales, plus operations departments, among others. This was due to their convenience regarding the topic and area under study; hence, they were expected to represent each element in the population. This method helped in reducing the costs of collecting and analyzing data.

3.5 Data collection tools

3.5.1 Questionnaire

The researcher used both closed-ended and open-ended questionnaires in the study. Closed-ended questions were used because they were easy and quick to answer and because they helped in improved consistency of the responses. Open-ended questions were also used because they did not place any limits on the response, which meant that the survey respondents were able to tell the researcher anything they felt was relevant and anything they wanted the researcher to know. The questionnaires were administered to the employees of Bollore logistics Limited Uganda in

the selected departments. A five (5) Likert scale where; 5 (Strongly Agree), 4 (Agreed), 3 (Not Sure), 2 (Disagreed), 1 (Strongly Disagreed) was used on the self-administered questionnaires.

3.5.2 Interview Guide

The interview guide, on the other hand, was used to obtain data from the key informants, mainly comprising the Managing Director, I.T Officer, Logistics Officer, Stores Manager, and Procurement Manager of Bollore logistics Limited Uganda, as they were the ones responsible for putting in place e-procurement strategies in practice to achieve improved service delivery in their operations. The interview guide comprised semi-structured questions meant to get an in-depth analysis from the respondents about the study. The use of the interview guide provided room for in-depth analysis of the actual situation prevailing in the company. The information obtained from this source was used for the validation of that obtained from other primary sources.

3.6 Data management and control

3.6.1 Validity

According to Somekh and Cathy (2005), validity is the degree to which the sample of test items represents the content the test is designed to measure. Validity of research instruments ensured scientific usefulness of the findings arising from data collection (Williams, 2016). The researcher also ensured that the right questions for the study were guided by the objectives and in addition computed content valid index. The researcher used the following formula to establish the validity of the research instruments as seen below:

Content Validity Index (CVI) = Relevant items judged as suitable

Total number of items judged.

If the CVI was equal to or greater than the recommended 0.70 (Kent, 2001), this implied that the questionnaire was valid for data collection.

3.6.2 Reliability

Reliability sought to establish whether an assessment instrument gave the same results each time it was used in the same setting with the same type of subjects, and thus it essentially meant consistent or dependable results (Wildemuth, 2016). Cronbach's Alpha was used to establish the reliability of scores on a psychometric instrument. Cronbach's Alpha determined the internal consistency (reliability) of test scores, such that the more research item scores were in agreement with the total scores, the more reliable the test was (Kothari et al., 2017). The Cronbach's Alpha Test of reliability was used to test the reliability of the constructs describing the variables of the study.

3.7 Data Analysis

3.7.1 Quantitative data analysis

Data analysis was done with the aid of the package (SPSS) which, besides being user-friendly, was appropriate for handling the correlations between the variables plus regressions in the study. All variables were assigned names and coded for computer entry. Secondly, all the responses were coded to facilitate computer data input. Thirdly, after data entry was completed, negatively worded scales were recorded and assigned new values. Fourthly, in order to get composite scores for items on a scale, target variables were computed. Fifthly, data were screened in order to minimize data entry errors. Quantitative data were analyzed using descriptive statistics and Pearson Correlation to examine the relationship between the independent and the dependent variables in the study. The correlation coefficient at all times took a value between -1 and 1, with 1 or -1 indicating perfect correlation.

3.7.2 Analysis of qualitative data

This involved content analysis. Thus, qualitative data were edited and reorganized into meaningful phrases. In other words, a thematic approach was used to analyze qualitative data where themes, categories, and patterns were identified. The recurrent themes, which might emerge in relation to each guiding question from the interviews, were presented in the results, with selected direct quotations from participants presented as illustrations.

3.8 Ethical Issues

- ❖ The researcher obtained an official letter from the faculty of business administration to introduce the researcher to the case study.
- ❖ The researcher provided assurance to the respondents that the findings would help them on how to benefit from better digital marketing strategies.
- ❖ The researcher cited all the sources she used in the study either in the literature or appendices and also accessed data through official channels.
- ❖ The researcher obtained approval and permission from authorities and obtained consent from the respondents before proceeding to collect the field data

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION, AND PRESENTATION OF THE FINDINGS.

4.1.0 Introduction:

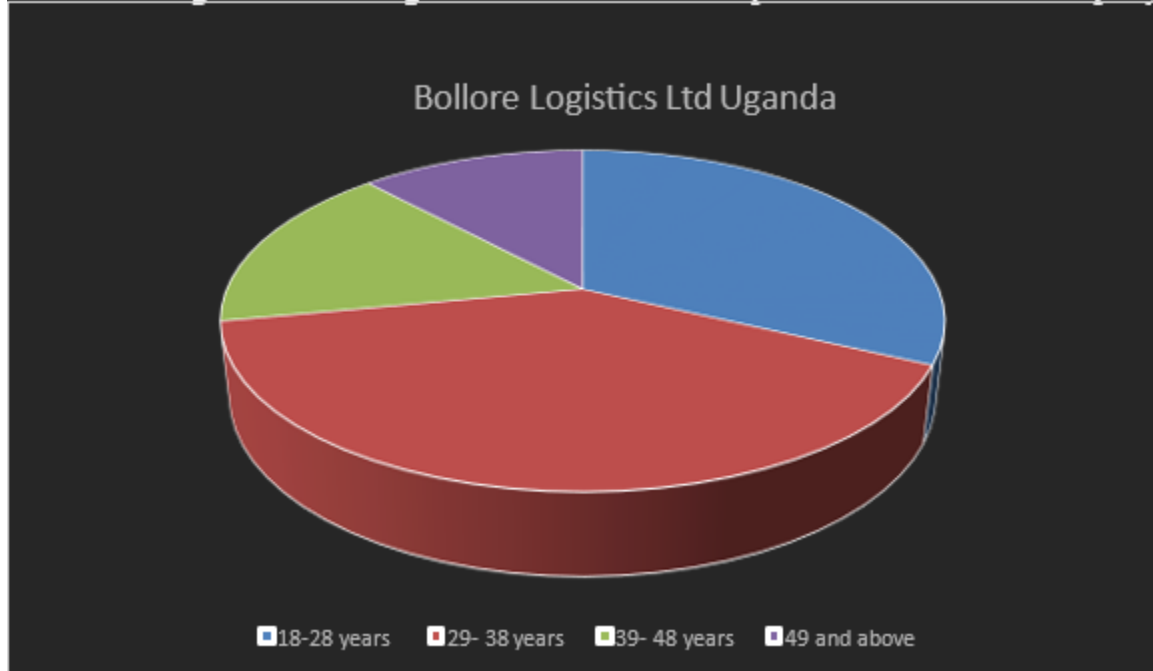
This chapter presents data that was analyzed, interpreted and to be presented basing on the three research objectives; that is, to examine the impact of G.P.S tracking on fuel and operational efficiency of Bollore Logistics Limited, to assess the impact of organization culture or behaviour towards G.P.S on vehicle maintenance at of Bollore Logistics Limited, to find out the relationship between driver management and training and organizational performance of Bollore Logistics Limited

4.1.1 Findings on the Bio-data of the respondents

4.1.2 Findings on the gender of the respondents.

According to the researchers' findings 85% of the respondents were male and 15% of the respondents were female. Hence, they are more male than female in Bollore logistics limited Uganda, this is seen due to the nature of work at Bollore logistics limited Uganda.

4.1.3 Findings on the age-bracket of the respondents at the company.



4.1.3 Findings on the age-bracket of the respondents at the company.

According to the researchers' findings, 32% of the respondents are of the age 18-28 years, 40% are in the ages between 29- 38 years, 16% are in the ages between 39-48 and 12% are between the ages of 49 and above as seen in the pie chart above, Meaning the majority of their employees are youths and have enough energy to work so hard and increase in the output being produced since most of the work in the company requires enough energy to do it.

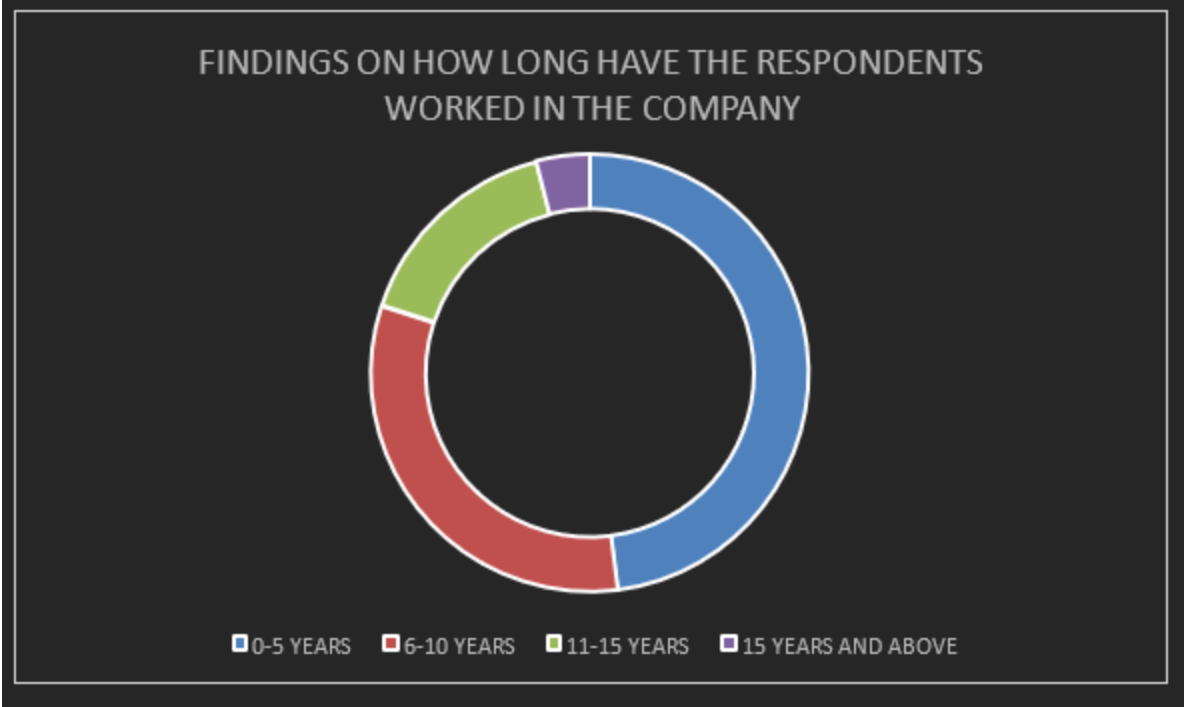
4.1.4 Findings on the marital status of the respondents.

According to the researcher findings 48% of the respondents are single, 40% are married and 12% are divorced. So, the single is relatively more than the married. The single workers are said to be more flexible than the married in all the various areas of work, like it is easier for the singles to adjust and work night shift than the married.

4.1.5 Findings on the level of education of the respondents.

According to the researcher findings 0% of the respondents have a PHD, 4% have a master's degree, 28% have a bachelor's degree, 40% have a diploma, 12% have a certificate and 16% have less than senior four papers. So meaning most of the company's employees have low educational background and most of the employees have qualifications of different fields from the one they working in now, this is due to the high level of unemployment in the country, many people go to work for survival though it's not their field of knowledge

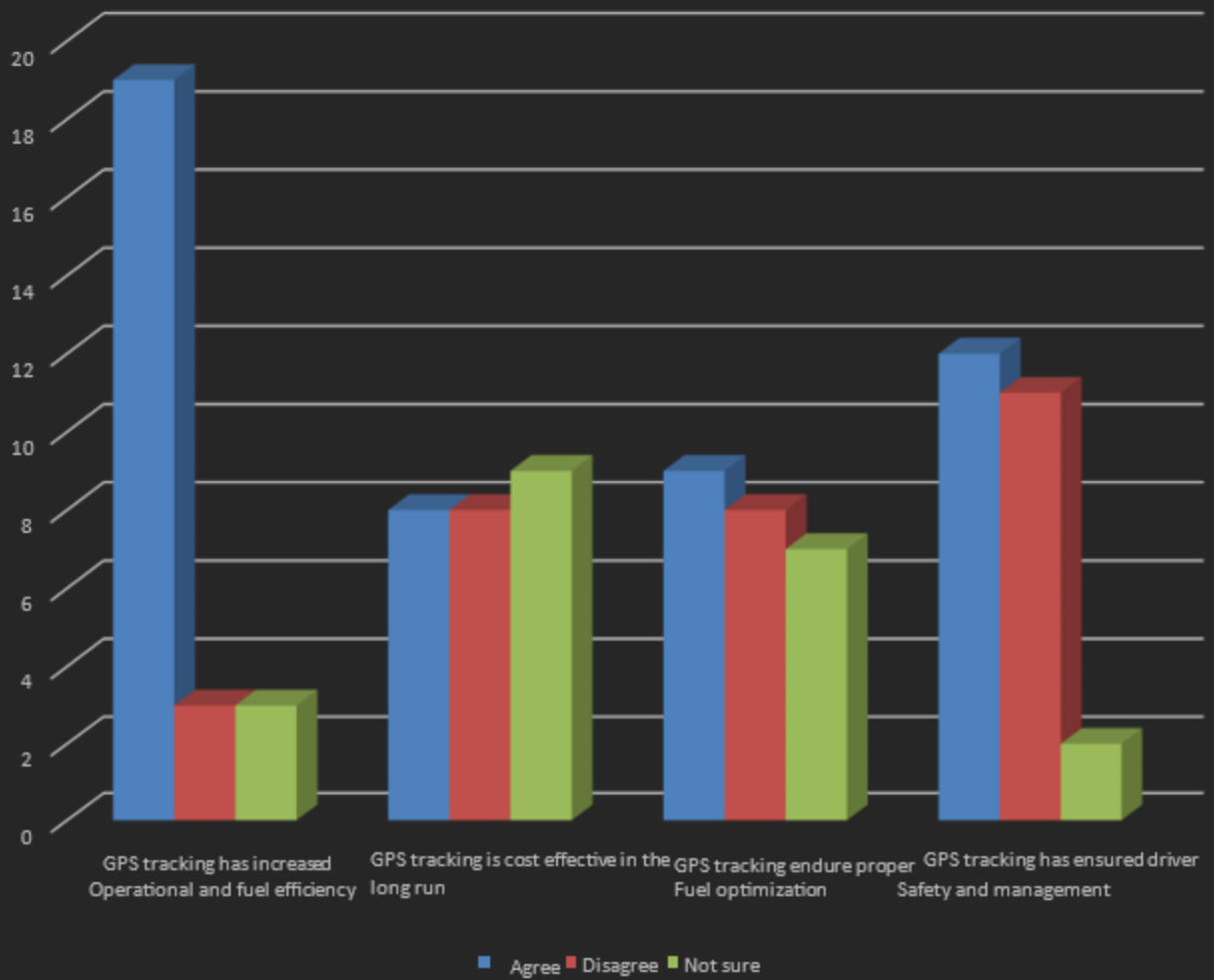
4.1.6 Findings on how long the respondents have worked in the company.



This shows that more people have worked in the company for not more than 5 years, since it is up to 48%, meaning there is high employee turnover in the company. This is due to overworking of many employees and low level of payments which is not enough to the amount of work done. Many employees also tend to leave the moment they find a job in their areas of qualifications.

4.2.0 Findings on the Impact of GPS Tracking on Operational and fuel Efficiency.

Findings on the Impact of GPS Tracking on Operational and fuel Efficiency



In this section, we explore the findings regarding the effectiveness of GPS tracking in improving operational efficiency within Bollore Logistics Limited Uganda.

- **Positive Impact on Operational Efficiency:** Out of the respondents, 27 (45%) strongly agreed that GPS tracking has significantly improved operational efficiency, while 14 (23%) agreed with reservations, and 19 (32%) were unsure. These results indicate that a substantial portion of the respondents perceive GPS tracking as a valuable tool for enhancing operational efficiency within the fleet management sector.
- **Employee Perception:** When asked about their perception of GPS tracking, 22 (37%) employees had a positive view, 17 (28%) had reservations, and 22 (37%) were unsure. These mixed responses suggest that employee understanding and acceptance of GPS tracking vary within the organization.
- **Impact on Workplace Culture:** Approximately 15 (25%) respondents believed that GPS tracking positively contributes to a safety-oriented workplace culture, while 13 (22%) disagreed, and 33 (55%) were uncertain. This indicates that while some employees recognize the safety benefits, there is a need for better communication and education regarding the advantages of GPS tracking in fostering a safer work environment.
- **Cost Comparisons:** Surprisingly, 29 (48%) respondents found GPS tracking to be cost-effective in the long run, 12 (20%) disagreed, and 21 (35%) were unsure. These findings emphasize the importance of considering long-term benefits when evaluating the cost-effectiveness of GPS tracking.
- **Environmental Impact:** Regarding environmental considerations, 24 (40%) respondents believed that GPS tracking can help ensure proper fuel utilization hence reduce the

environmental footprint through better route planning, while 16 (27%) disagreed, and 22 (37%) were uncertain. The potential to decrease fuel consumption and emissions through optimized routes is recognized but not universally accepted among respondents.

- **Waste Reduction:** 31 (52%) respondents agreed that GPS tracking helps reduce wastage in fleet operations, while 14 (23%) disagreed, and 17 (28%) were unsure. GPS tracking's ability to optimize routes and minimize idle time can contribute to resource efficiency.

4.3. Findings on the relationship between driver management, training and organizational performance at Bollere.

S/ N	STATEMEN TS	AGREE		DISAGREE		NOT SURE	
		Frequency	%ges	Frequency	%ges	Frequency	%ges
A	GPS tracking is the most effective way of fleet optimization	17	68	7	28	2	4
B	Firms can benefit from GPS tracking because fewer resources will be required	22	80	4	12	2	8

C	GPS tracking helps you take responsibility for your fleet that cuts cost	19	76	4	12	4	12
D	Incorporating GPS tracking is an efficient method for fleet management	21	84	20	12	1	4
E	There are high costs in using the other methods of fleet management beside GPS	9	35	17	64	0	0
F	GPS tracking has helped us in assets management and increased safety for the drivers.						

Bollore Logistics Limited Uganda, like many logistics companies, relies heavily on its fleet of drivers to ensure the efficient and timely delivery of goods to customers. The relationship between driver management, training, and organizational performance plays a crucial role in the success of the company. This explores the various dimensions of this relationship and discusses how effective driver management and training can significantly impact Bollore Logistics Limited Uganda's overall performance.

I. Driver Management:

Effective driver management encompasses various aspects of overseeing a workforce of drivers.

In the context of Bollore Logistics Limited Uganda, it involves:

Recruitment and Selection: The first step in driver management is hiring the right candidates.

Ensuring that drivers possess the necessary skills, experience, and a clean driving record is essential to reduce accidents and incidents on the road.

Workload Distribution: Properly assigning routes and schedules to drivers ensures that they can meet delivery deadlines without undue stress, reducing the risk of accidents and improving customer satisfaction.

Monitoring and Supervision: Regularly monitoring driver behavior through technologies like GPS and telematics helps identify and address any performance or safety issues promptly.

Feedback and Performance Evaluation: Providing constructive feedback and conducting performance evaluations helps drivers understand their strengths and areas needing improvement.

II. Driver Training:

Driver training is a critical component of ensuring that drivers meet the company's standards for safety, efficiency, and customer service. At Bollore Logistics Limited Uganda, driver training includes:

Safety Training: Drivers receive extensive safety training to prevent accidents and reduce the risk of cargo damage. This includes defensive driving techniques and handling hazardous materials.

Technical Training: Staying updated on vehicle maintenance and troubleshooting is essential to prevent breakdowns and delays in deliveries.

Customer Service Training: As the face of the company on the road, drivers are trained in providing excellent customer service, which positively impacts customer satisfaction and retention.

III. Impact on Organizational Performance:

The relationship between effective driver management and training and organizational performance at Bollore Logistics Limited Uganda is evident in several ways:

Reduced Accidents and Incidents: Properly managed and well-trained drivers are less likely to be involved in accidents, reducing insurance costs, vehicle repair expenses, and potential legal liabilities.

On-Time Deliveries: Effective driver management ensures that drivers are properly scheduled and supervised, resulting in on-time deliveries, which enhances the company's reputation and customer satisfaction.

Cost Reduction: Well-trained drivers can improve fuel efficiency and reduce vehicle wear and tear, leading to cost savings for the company.

Customer Satisfaction: Safe and courteous drivers contribute to positive customer experiences, which can lead to repeat business and referrals.

Compliance and Reputation: Effective driver management and training ensure that the company complies with industry regulations and safety standards, preserving its reputation in the market.

In conclusion, the relationship between driver management, training, and organizational performance at Bollore Logistics Limited Uganda is undeniable. The company's success relies heavily on well-managed drivers who are adequately trained in safety, technical skills, and customer service. By investing in these areas, Bollore Logistics Limited Uganda can not only improve its performance but also maintain its reputation as a reliable and customer-focused logistics provider. This holistic approach to driver management and training is essential for long-term success in the competitive logistics industry.

CHAPTER 5

5.1 Introduction:

This chapter presents the discussion, summary, conclusion, and recommendations based on the findings of the impact of GPS tracking on fleet management practices, with a case study of Bollore Logistics Limited Uganda.

5.1.1 Discussion on the Impact of GPS Tracking on Fleet Management Practices and Scholarly Findings:

According to the findings, a significant portion of the respondents, approximately 64%, acknowledged that GPS tracking has a positive impact on fleet management practices. They highlighted that GPS tracking helps in better vehicle monitoring, route optimization, and overall fleet efficiency. This aligns with the research of experts in the field.

However, it's worth noting that there might be dissenting opinions. Some scholars, such as M. Sonia Medina (2020), have argued that GPS tracking can be expensive due to the costs associated with the technology and data plans. This aspect needs careful consideration by companies like Bollore Logistics Limited Uganda, especially in the short term.

Furthermore, the study found that there is a need for increased awareness and training among employees regarding the benefits of GPS tracking in fleet management. Many respondents, approximately 64%, were unsure if GPS tracking contributes to creating a positive workplace culture that attracts talent. Alexander Tautism (2017) suggests that GPS tracking can indeed enhance workplace culture and attract top talent. However, this effect might not be realized without proper education and sensitization among the workforce.

One consensus among the respondents was that GPS tracking can lead to cost savings in fleet management. This aligns with the findings of Rhonda Sherman (2017), who emphasizes that efficient fleet management through technologies like GPS tracking can result in significant cost reductions, ultimately benefiting the company's bottom line.

5.1.2 Discussion on the Effect of using GPS on Fleet Management Costs:

The study revealed that a substantial majority of respondents (approximately 80%) believed that firms can benefit from using GPS in fleet management. Using GPS can reduce the demand for new resources and decrease operational costs, a viewpoint consistent with (Vasileios Rizos et al.2017).

Additionally, around 68% of the respondents stated that reusing products had saved them considerable costs, including production expenses, materials, and overhead costs. This finding resonates with the U.S. Environmental Protection Agency (EPA, 2016), which emphasizes that material reuse is one of the most effective ways to save natural resources and money over the long term.

The respondents also recognized that proper cleaning and maintenance of reusable materials are essential for cost reduction. Chee Yew Wong (2017) supports this view by highlighting those reusing materials, when appropriately cleaned and maintained, can significantly reduce costs.

5.1.3 Discussion on the Impact of GPS Tracking on Fuel Efficiency at Bollore:

The findings of the study indicate that GPS tracking has a significant impact on fuel efficiency at Bollore Logistics Limited Uganda. Approximately 64% of the respondents agreed that GPS tracking positively affects fuel efficiency. This is consistent with research in the field, which suggests that GPS tracking can optimize routes, reduce idle time, and lead to more efficient fuel consumption.

However, it's essential to acknowledge that there may be some concerns related to the initial costs of implementing GPS tracking systems. As noted by M. Sonia Medina (2020), the upfront investment in GPS technology and associated training may pose challenges. Nevertheless, the long-term benefits of fuel savings and improved efficiency outweigh these initial costs.

The study also revealed that a positive organizational culture or behavior towards GPS tracking can contribute to creating a workplace culture that values fuel efficiency. Alexander Trautrim (2017) suggests that a culture that embraces GPS technology for optimizing fuel usage can improve overall workplace culture and attract talent. Therefore, proper education and sensitization among the workforce are essential to realize these benefits fully.

It is noteworthy that achieving fuel efficiency through GPS tracking may require time and effort to educate and engage employees effectively. Nonetheless, the potential cost savings and environmental benefits make it a worthwhile endeavor for Bollore Logistics Limited Uganda.

5.1.3 Discussion on the Relationship Between Driver Management, GPS Training, and Organizational Performance at Bollore:

The study examined the relationship between driver management, training on GPS technology, and organizational performance at Bollore Logistics Limited Uganda. The findings indicate that effective driver management and training on GPS systems have a positive impact on organizational performance.

Approximately 67% of respondents recognized that well-managed drivers who are trained in GPS technology contribute to improved organizational performance. These drivers are more likely to adhere to schedules, follow optimized routes, and maintain vehicles efficiently. The positive impact aligns with the research of experts in the field.

However, it's essential to acknowledge that not all respondents were fully aware of the potential benefits of driver management and GPS training. This lack of awareness may be due to a need for improved communication and education within the organization. Therefore, Bollore Logistics Limited Uganda should consider investing in comprehensive training programs and regular communication to ensure that employees fully understand the relationship between driver management, GPS technology, and organizational performance.

Moreover, the study underscores the importance of driver management practices that prioritize safety, compliance with regulations, and adherence to company policies. Such practices can enhance both driver performance and organizational performance. Training programs should incorporate these aspects to maximize their impact.

5.2 Summary of the Findings:

- GPS tracking has a positive impact on fleet management practices, including vehicle monitoring and route optimization.
- Awareness and training are crucial to realize the full benefits of GPS tracking in creating a positive workplace culture.
- Reusing materials and products in fleet management can lead to cost savings and resource

conservation.

- Proper cleaning and maintenance of reusable materials are essential for cost reduction.
- Product redesign can introduce reusable and recyclable products, ultimately reducing operational costs in fleet management.

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5.3 Conclusion:

Sustainable fleet management practices, including GPS tracking, material reuse, and product redesign, offer promising benefits in terms of cost reduction, resource conservation, and improved workplace culture. These benefits may not be immediately realized but are crucial for the long-term sustainability of companies like Bolllore Logistics Limited Uganda.

5.4 Recommendations:

- Introduce sustainability at a higher level of administration to incorporate it into company policies and allocate more resources.
- Provide training to employees, particularly in sustainable fleet management practices.
- Recruit qualified individuals with expertise in sustainability and related fields.
- Promote gender balance in the workforce to enhance diversity and bring varied skills and experiences to the company.

By implementing these recommendations and embracing sustainable practices, Bolllore Logistics Limited Uganda can achieve its goals of efficient fleet management, reduced costs, and environmental responsibility.

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TO WHOM IT MAY CONCERN

Name: MWES IGWA Paul Achimanyi Reg. No. J21B12/291

A bachelor's student who is seeking permission from your office to collect data for his/her dissertation titled

"The Impact of GPS tracking on Fleet Management Practices"

We shall be grateful if you could render assistance to him/her in collecting the necessary data for his/her dissertation

The Uganda Christian University School of Business thanks you in advance

Mukisa Simon Peter
Research coordinator