Mekelle University
College of Business and Economics
School of Management
Department of Logistics and Supply Chain Management

The Effect of Fleet Management Practices on Operational Performance.

In Case of: Trans Ethiopia

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By
Berhan Teka
Advisor: Teshome Desta (Asst.Prof.)

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THE EFFECT OF FLEET MANAGEMENT PRACTICE ON OPERATIONAL PERFORMANCE IN CASE OF TRANS ETHIOPIA PLC.

BY

BERHAN TEKA (CBE/PRLO/007/13

APPROVED BY BOARD OF EXAMINERS AND ADVISER.

Adviser _____ Signature _____ Date _____

Internal Examiner _____ Signature _____ Date _____

External Examiner _____ Signature _____ Date _____

DECLARATION

I, Berhan Teka, declare that this thesis entitled as the effect of fleet management practice on operational performance: In case of TRANS ETHIOPIA PLC is my original work and has not been presented for any degree in any other university .all source used in this research have been properly cited and referenced.

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ACRONYMS

UN: ——— United Nation.

GPS: ——— Global Positioning System.

WHO: ———World Health Organization.

SPSS: _____ Statistical Package for Social Service.

ANOVA: ——Analysis Of Variance.

PLC: ——— Public Limited Company.

FM: ——— Fleet Management.

SCM: ——— Supply Chain Management.

Abstract

The main purpose of the study was to investigate the effect of fleet management practice on operational performance; In case of TRANS Ethiopia PLC .this research develops four fleet management practices (Repair and Maintenance, Fuel Management, Vehicle tracking, Driver management) to test their effect on Operational performance. The study used both quantitative and qualitative research approach and both explanatory and descriptive research design. Using simple random sampling 130 employees were taken as sample to the study. Survey questionaries' and interview was used to collect data. The quantitative data was analyzed using SPSS version 27. the demographic data were analyzed by descriptive statistics, the relationship proposed in the framework were tasted using Pearson correlation, and the casual relationship was analyzed using multiple regression analysis. The regression model indicates that the fleet management practice explians72.6% of the variation in operational performance, supported by ANOVA result ($F=52.294$, $p<0.001$). The vehicle tracking have strong correlation with operational performance followed by repair and maintenance and fuel management but driver management have weak relationship with operational performance. The researcher recommends that the driver management is not translating into measurable performance gains this is the company's untapped potential for significant improvement .among these the company should give driver training in deep because training can lower accident rates leading to fewer vehicle repairs and reduced down time.

Key words*:* Fleet management, Vehicle Repair and Maintenance, Fuel Management, Vehicle Tracking, Driver Management, Operational Performance.

Chapter one

Introduction

This chapter discusses the Background of the study, Statement of the problem; Research Objectives, Significance of the study, and scope of the study, Limitation of the study and Organization of the study.

1.1 Background of the study.

Fleet management is a function which allows accompanies to rely on transportation in their business to remove or minimize the risk associated with vehicle investment, improving efficiency, productivity and reducing their overall transportation cost providing compliance with government legislation (Choudhary, 2013).

Transportation management includes commercial motor vehicles such as cars, ships ,vans and trucks as well as rail (Chopera & Meindi,2016).fleet management (FM) is a component of transportation management that gives a great concern to the work of vehicles in the supply chain management (SCM) pipeline (Kunez et,al,2015).a well performing fleet management system in logistics activities may provide attributes like better logistics efficiency, reduced operational cost ,and promote service quality (Elgaro,2018).

Several activities are involved in the fleet management of a certain organization, the major Activities includes maintenance and repair management, fuel management, vehicle tracking s, Driver management and over all vehicle lifecycle management (Martinez and Wassenhove, 2012).

Effective transport management is an important activity in every successful organization in logistics industry and for that matter fleet management. business that have the intention of excelling in their fleet management operation in to day ‘s competitive market have to adopt effective and robust managerial strategies to coordinate resources that will facilitate their success and enable them to gain competitive advantage .the quest to achieve competitive advantage has therefore put pressure on fleet management to deliver faster and cheaper vehicle utilization resulting in lower operating cost through better planning (Gitahi and Ogollah,2014).

Firms are thus no longer able to satisfy the various demands of their customers effectively with just product and price .they must also increase the performance of the product and service in terms of reaction speed,

delivery policy, information services and flexibility .for this reason, firms are in many instances, being forced to redesign their internal process using different methods (Waiyaki 2013, p 22).

In today's highly competitive and dynamics business organization need to focus their effort in maintaining a supply chain that runs like a well –oiled machine, fleet management has proven a critical component of oiling the supply chain since it manages the transport function throughout the supply chain.Christopher,M.(2016).

Coyle et al (2015), transportation is a critical ingredients for overall supply chain performance and in general the fleet management function is viewed as the glue that holds the supply chain together over years and the supply chain have recognized the critical role played by the fleet management function which have been termed as glue in the supply chain by colye et al (2015).

(Gitahi and Ogolla, 2014) assert that the higher expectation of customer and their intolerance for unsatisfactory service have resulted in to competitive atmosphere for fleet operation to provide reliable and cost efficient services. There is need to effectively meet customer expectation in terms of how fleets are managed so as to enhance service delivery. As noted by (Gitahi and Ogallah, 2014) transportation is an integral part of logistics systems and seen as physical conveyance of resource (people or materials) that existed between place that results in border concept referred to supply chain.

Better vehicle utilization, proper maintenance, low down time and timely fleet disposal and replacement lowers operating cost through better planning .fleet operation planning requires software support with the use of fleet management systems.Egbue,O.N.,and Kwarteng,B (2018).

The aim is to determine routes that will provide the highest overall utilization of vehicles capacity with many customers served and delivery times are minimized .in order to provide a more realistic route in fleet management advanced planning also takes in to account specific factors such as road and traffic conditions.tecnological communication improvement in the business environment have allowed for better planning through the use of electronic data interchange (EDI),Radio frequency identification (RFID),satellite navigation and so on(Gatihi and Oagallh,2014).).according to (Besious et al,2012) fleet management should largely

consider the environmental impact as well.

It is important to note that logistics as well as transportation services in the third world countries have been experiencing changes in various services prospects (Bask et al,2010).

Sub-Saharan Africa countries were poor in logistics performance compared to other world countries.particularily poor performance were resulted from lack of investment on infrastructure and lack of road maintenance.as a result transportation constrained well flow of goods in market(Ittman&king,2010).

Ethiopia is not performing well in logistics, the Ethiopian logistics challenges are characterized by, underdevelopment of logistics management system, inadequate fleet's vehicles for goods transport, the market possibility of the country is hampered by poor logistics system, low level of infrastructure (Debela, 2013).

1.2 Statement of the problem

Fleet management is the use of vehicles in order to provide a service to third party or to perform an activity internally in the organization in the most efficient and productive manner with determined level of service and cost .also it is a key aspect to develop the general strategy of the organization for this reason it has to be designed and to implemented based on its guide lines, characteristics and goals of the organizations.Rushton,A.,Croucher,P.,and Baker,P.(2022).

Fleet management can be defined as the organizational function responsible for managing a company vehicle fleet to achieve efficient and cost –effective transportation services (Lekashman and Stolle ,2021).

In developing economies, it might be difficult to determine how fleet management affects overall performance (Gitahi and Ogollah, 2014; Pedraza –Martinez and Wassenhove, 2012).the fleet management system is still in its infancy, particularly in east Africa where Ethiopia is located (Shugan, 2004).

There are studies that are done on the effect of fleet management practice on operational performance. For instance selamawit (2022) entitled that analysis of fleet management practice and its effect on operational performance. Ambay (2019) assessment of fleet management practice in bottled water companies and its implication on operational performance.eventhough there are few related studies; the existing literature reveals a significant literature gap particularly within Ethiopian context. While the importance of transport sector to Ethiopia's economy is widely recognized, empirical research focusing on the operational level dynamics of fleet management remains strikingly scarce so researcher is going to fill the Literature gap that means there is limited study in the areas of fleet management in terms Ethiopia, Tigray and trans Ethiopia plc.

1.3 Objectives of the study

1.3.1 General objective

The main objective of the study is to investigate the effect of fleet management practice on operational performance. In Case of Trans Ethiopia.

1.3.2 Specific objectives

The specific objectives of the study

1. To examine the relationship between vehicle repair, maintenance and operational performance.
2. To examine the relationship between fuel management and operational performance.
3. To identify the relationship of vehicle tracking and operational performance.
4. To identify the relationship between driver management and operational performance.

1.4 Significance of the study

This research is expected to have significant value to various stakeholders, including trans Ethiopia plc,other transport and logistics companies in Ethiopia and academic institutions. The significance for Trans Ethiopia plc, it provide an empirical diagnosis that means it will identify the specific fleet management practice that have the strongest impact on key operational performance. Other transport and logistics companies in Ethiopia can use the findings of this study as benchmark to evaluate and improve their own fleet management practices. The other is it fill a contextual research gap, while fleet management is well researched topic globally ,there is a scarcity of empirical studies conducted in Ethiopian context, particularly focusing on major player like trans Ethiopia plc, this study will contribute to fill this gap by providing localized data and insights. Finally it provide a foundation for future research that means it serve as a valuable reference and foundations for other researchers and students in Ethiopia who wish to investigate related topics in logistics ,supply chain management or transport economy.

1.5 Scope of the study

The study's investigation of the effect of fleet management practice on operational performance. Is done in Tigray, Mekelle city on Trans Ethiopia PLC .focused on vehicle repair and maintenance, fuel management, driver management, vehicles tracking. eventhoug there are other fleet management practice the selected practice have greater impact on operational performance.

The study used both quantitative and qualitative methods of research approach, descriptive and explanatory research design .and it used cross sectional methods to collect the data. The Company's the fleet managers, maintenance personnel, and drivers were selected for the study.

1.6 Limitation of the study

This research is designed as an in depth case study of Trans Ethiopia plc. While this allows for a rich contextual analysis of fleet management practices within a specific organization, the findings are primarily indicative's of this single entity .consequently the result may not be fully generalizable to all other transport companies in Ethipoia,which may operate under different management cultures, scales and operational constraints. And the other limitation of this study is that the research was conducted at a single point in time (cross sectional), providing a snapshot of the relationship between fleet management practices and operational performance. As such it does not capture the long term dynamics or the evolving impact of this practice over an extended period the findings reflect the context and conditions present during the data collection phase.

1.7 Organization of the study

Chapter one includes Background of the study, Statement of the problem, Objectives, Significance of the study, scope of the study, Limitation of the study and how the study was organized. Chapter two Include Theoretical Review, Empirical Review, and Conceptual Framework. Chapter three deals with Methodology, includes Description of the study area, Research approach, Research design, , Hypothesis testing ,Target population and Sampling technique , Data collection procedures and Data collection methods, Methods of data analysis, Validity and Reliability test and Ethical consideration. Chapter four includes data presentation, analysis and interpretation and Chapter five includes Summery, Conclusion, Recommendation and Suggestion for future studies.

CHAPTER TWO

LITERATURE REVIEW

This chapter includes the Theoretical review, Empirical review and the Conceptual frame work that are relevant to the study. Under the theoretical review theories about fleet management are reviewed, under empirical review, studies conducted earlier on the effect of fleet management on operational performance are reviewed; finally the conceptual framework illustrates the relationship between independent variables and dependent variables.

2.1 Concept of Fleet management

Fleet management can be seen as monitoring and increasing how efficient one can perceive transportation (Gitahi and Ogollah ,2014).fleet management includes the management of vehicles like car,ships,vans ,and trucks .a lot of functions are considered when it comes to fleet management including financing vehicles, maintenance of vehicles, vehicles telematics, driver training ,tracking of assets ,management of speed, fuel management as well as health and safety management .the primary aim of fleet management is to significantly decrease the risks associated with vehicle operation efficiency ,productivity , minimizing the transportation and staff cost entirely.

The logistics efficiency are basic to profitable fleet management .the transport sector required to improve its logistics capacity in the field of operation so as to make sure that the organization is performing close to its possible optimal edge.in so doing, organization need to recruit and select qualified fleet managers / logisticians who have the technical know how to operate the fleet management (Kothari, 2008).

2.2 Theoretical Review

Several theories have been developed and utilized to explain issues with regards to fleet management.

Among them we see these theories

- **Theories of replacement**
- **Theories of resource based**

2.2.1 Theory of Replacement

The concept of replacement theory has to do with the acquisition of new fleet and maintenance of the fleet (Gitahi and Ogollah, 2014).fleet acquisition and maintenance required a cost of acquiring anew machine compared to the cost of maintenance (Bagui et, al, 2012).

Replacement theory often addresses the issue of replacing equipment, and people because of declining performance, failure or breakdown .replacement is typically done under the following circumstance: when the current objects have reached the end of their useful life and it may not be financially feasible to use them any longer and the items may have been damaged whether intentionally or accidentally.

Fleet may be replaced if the fleet performance has declined over time, replacement of a fleet after a given use, entirely failed without degrading.

The replacement examination most of the time analysis both trends in running costs and the final of replacement which is the discrepancy between the cost of advanced equipment and the residual (Rust,1987).the decision about replacement are influenced by several circumstance .

accordingly the theory suggest that an administrator has to take alternative in equipment design ,efficiency , capital and labor requirement into account in order to create accurate projection of future capital and running costs (Jin and Kitepowell,2000).the ideas helps in defining the best replacement plans for the company cars when it comes to fleet management .based on this the replacement theory of fleet indicates that trucks should be replaced when the total cost of ownership and operating expense is historically at its lowest level .according to the theory ,an effective fleet replacement techniques enables the management of fright transportation business to specify the ideal replacement policies for old fleet which minimize costs and enhance the economic and technical conditions of the fleet.

2.2.2 Theory of Resource Based

The resource based theory (RBT) was first put forward by (Penrose, 2009)who proposed a model on the effective management of firms resource ,diversification strategy and productive opportunities .Penrose publication was the first to propose conceptualizing a firm as a coordinated bundle of resource to address and tackle how it can achieve its goal and strategic behavior (Penrose ,2009).

The RBT provides framework to highlight and predict the fundamental of organization

performance and competitive advantages. The focus of RBTon the firms performance based on meso perspectives was reaction to the earlier managerial interest in the industry structure ,amore macro perspective.RBTaddresses an internally driven approach by focusing on internal organization resource ,as opposed to externally driven approaches to understanding the accomplishment or failure of leveraging organizational activates (Kozlenkova,Samaha and Palmatier,2014).it aims to elaborate on imperfectly imitable firm resource that could potentially become the source of sustained competitive advantage (Barney ,2010).

There are two underlying assumption of the RBT related to the explanation of how firm based resource generate sustained competitive advantage and why some organization may continually outperform others by gaining higher competitiveness (Halfat and Peteraf,2013).

One of the cornerstones of RBT is the hetrogentiy of resource and capabilities in a population of firms which differentiate the competitive advantage of each firm. The heterogeneity of resource assumes that affirm possesses unique resource in specific situation can potentially be more skilled to perform particular activities and create competitive advantage.

The second central construct of RBT,namely capabilities ,represents a subset of the company's specific resources that aim to improve the productivity of obtaining other resource (Makadok,2011).capabilities can manifest themselves in various forms and generally consist of tangible or intangible processes and information that help accompany to crate efficiency and improve its productivity (Kozlenkova ,Samaha and Palmatier ,2014).Generally the theory has an intera – organizational dimension and suggests that performance is a result of firm's specific resource and capabilities (Wernerflet, 2010).

2.3 Practice of fleet management

Basically, fleet management involves and deals with the practices of overall operations of the vehicles planning, implementation of vehicles operation systems, strategizing and scheduling all activities of a company's fleet for efficiency and costs minimization (Lease Plan USA,2017).these managerial duties might also include fuel management ,driver data management, real data management and establishing regular vehicle maintenance schedules,implmenting new driver training programs and investing in new technology for the fleet(Guide to Telematics ,2016).

Fleet management comprises all actions needed to maintain and operate pieces of equipment

throughout its life from the beginning stages of equipment acquisition to the final stages of asset disposal. Such areas include maintenance and repair, inventory control, training and safety issues (Hamizi et al, 2013).

According to Gunn, Simon, and Centere (2018), fleet management covers the controlling of vehicles involved in the movement of goods within the nation's boundaries or outside the country. Fleet management supports transport related activities and asset management in the road fright sector through implementation of fleet management practices which add value to the organization to remain competitive in the industry. The aims of fleet management practices are not limited to costs minimization, but it also better utilization of resource such as vehicles and enhancing availability of spare parts (The Beginners Guide to fleet management, 2016).

2.3.1 Vehicle Repair and Maintenance

vehicles repair and maintenance is very important to any organization that use fleet .repair and maintenance captured issues of changing oil, routine servicing as well as managing spare parts.perivous studies have revealed that driver training ,vehicle maintenance designed are range of relative low cost measures that can save 10% or more fuel for fleet operations (Baas et al, and latto 2015). Bell (2013) noted that properly changing of oil can help increase the life span of the vehicle engine by using fuel additives to ensures that the engine injectors are always clean. when the vehicle oil is not changed adequately it will permit dirt particles and acidic substance to degrade the engine parts .Chevrolet(2015) states that oil changes is primarily related to gas mileage and can result to decrease in fuel cost. Having the oil and filter changed is one of the most common maintenance requirements for the performance of vehicle. A regularly scheduled oil change is one of the most importance maintenance jobs because it is invaluable for the operation of an engine.

2.3.2 Fuel Management

Fuel management is an important aspect of fleet operation .it facilitates the movement of the vehicles at any point in time. fuel is a resource that needs to be well Managed, despite the fact that fuel management varies across the organization it nonetheless present a major cost problem in most setting (Gitahi and Ogallah, 2014).however implementing formal fuel management program is effective strategy of making lasting reductions in the cost .mostly, information about fuel level and consumption is obtained by connecting GPS tracker to an on – board computer or installing

fuel level sensor directly in the fuel tank .this activity generates detailed reports which identify drivers who waste the company fuel and to identify vehicles that use too much fuel.

2.3.3 Driver Management and Training

Keeping vehicles in good shapes and condition is a great responsibility of drivers. Drivers must be provided with the requisite training to take care of vehicles and should be able to attend to problems that arise when using the vehicle. Vehicle inspection is also very important for fleet management to be effective .fleet vehicles must be properly inspected on regular basis to check whether they are in good conditions to work on the road weather vehicles meet regulations in the country of operation. The driver should be able to provide first aid for vehicles when a break down occurs on the road whiles ensuring that they able to quickly identify and respond to problems immediately.

Resilience training has especially been proven to be effective means to proactively improve workplace wellbeing and may be considered foremost in any intervention strategy to adders work place stress (Hesketh et al 2015). The training of employees on a large scale program with regards to the usability of new technology is not possible in many organizations. However, organization achieves this by providing information to user department in the most appropriate way. Training manuals are also given to employees to encourage easy and quick adaption of new machines in the organization, other methods such as short presentation as well as posters and notice with tips on how improvements can be made are important in enhancing driver's skills and knowledge in delivering quality service.

2.3.4 Vehicle Tracking

Vehicle tracking refers to monitoring the movement of vehicles, either by scanning barcode attached to the vehicles or by using smart tags. Vehicles can also be monitored by using devices that integer the GPS (Global Positioning system and Cellular network or Satellite technology). The vehicle tracking directed to general fleet management system, ensure the tracking all goods and physical items that have been provided to a driver or loaded on a vehicle .it is believed that ,information systems that are used for coordination and routing services in the filed positively impact on routine increment and performance of fleet (Martinez et al,2011).

As noted by Huang, Smilowitz, and balacik (2012), Logisticians make routing and delivery scheduling decisions based on the insights and experiences they have particular information. With advancement in communication technology in the business world ,most organization are engaging in innovative forms of planning through the utilization of electronic data interchange (EDI) as well as radio frequency identification (RFID) and satellite navigation (waters ,2009) to Collect the right information about vehicles movement which results in higher operational efficiency.

2.4 Operational performance

Operational performance is an organization's performance measured against standard or prescribed indicator of effectiveness, efficiency and environmental responsibility such as cycle time productivity, waste reduction and regulatory compliance in which their measurement is key for continual improvement process (Welansa 2018).

Operational performances is an integral part of any bussines.it helps the organization to understand how well the operation is running and allow the organization to adjust as needed. The organization can improve the operational efficiency by aligning its business goals with the right tools and strategies.

The main operational performance objectives can vary depending on the organization and industry. Some of the common goals are Reducing cost, improving quality, flexibility, and delivery.

2.4.1 Operational performance measurement

According to Lu et al.,(2017), cost ,delivery and flexibility listed as the basic measures of operational performance. Therefore, under this sub section, detailed explanations have been given for the performance measurements.

- Cost: organization performing in the market tends to decrease their operational costs in order to deliver a cost effective goods and services. Cost management produces valuable resource endowment which leads to create value to the end customers and also increase satisfaction to customers (Lu et al., 2017).

- Delivery: delivery performance can be defined as the level up to which products and service supplied by an organization meet the customer expectation. In manufacturing industries, delivery is seen in both directions from the suppliers and customers side. A delayed delivery will lead to a higher procurement cost in the supplier and potential lose in sales of customers.

- Flexibility: flexibility can be defined as the ability of a system to respond effectively to changing circumstance .the main purpose of flexibility is to increase the simplicity of processes that adds value and to shorten the time of response to the demands of customers.

2.4.2 Key performance indicators and fleet efficiency

Key performance indicators are used to monitor the efficiency of fleet operations. Key performance indicators (KPI) can help to better predict when vehicles need maintenance and can prevent unplanned down time or failures in the field (Oracle, 2017). Hence a metrics or a key performance indictor in any measurable value demonstrates how efficiently fleet is operating and helps to meet business objectives. The collection of data for an extended period creates ahistorical record of operational data which is used to predict by analyzing it.the data also help one to know where to make changes to reduce risk, improve efficiency of fleet and enhance customer service .

Accordingly KPI are typically grouped in three categories of safety, efficiency, and compliance. The safety KPI categories constitute speed violation, alerts, monitor driver behavior and provide data that can use to promote and improve driver safety. The efficiency category monitors operational performance and provide data that can use to reduce wear and tear 0n vehicles and maintenance costs. The compliance category has sample KPI types like consumed fuel cost, idling duration and fuel consumed (Oracle, 2017). Fuel consumption is greatly influenced by road topography .several researcher have examined fuel consumption reduction methods that use information concerning road terrain (Jialia Fu 2017). In recent years several studies have been conducted to improve fuel efficiency by combining road topography and signals with Global Positioning System (Jiali Fu, 2017).

2.5 Empirical Literature review

Ambaye (2019) did a study on fleet management practice and its implication on operational performance: in case of Aquadis Addis drink water company .the study shows that all of the fleet management activates influence the operational performance of the organization .however vehicles tracking contributes the most to the operational performance of the company followed by fuel management.

Selamwit (2022) did a study on fleet management practice and its effect on operational performance: in case of Hagbes plc .the study shows that repair and maintenance have greater impact on operational performance followed by fleet utilization.

Jealous mazinga (2020) did a study fleet management practice and its effect on competitiveness of the Zimbabwean road fright sector: a case of biltrans Haulage Company. He finds that all the fleet management practice has a positive impact on organizational competitiveness.

Gitahi and Ogallah (2014) undertook a research study in Kenya. The aim of the study was to establish the influence of fleet management practices on service delivery to refuges in the United Nations High Commissioner For refugees Kenya program. The research findings reviled that vehicles repair and maintenance has a strong positive correlation to service delivery for the UNHCR refuges in Kenya .this research highlighted that fuel management influence service delivery to refuges to a great extent .the study recommended that organization should have a strict servicing and maintenance schedule for vehicles, routine check –up , maintenance and, serviced engines ,proper tire, headlight and steering components, spare to be available in stores ,yearly purchase of spare parts and vehicles repair should be prioritized and to be done regularly to improve on transport service quality.

Gitahi and Ogallah (2014) argue that a well maintend and managed vehicle can result to 20 - 30% or more cost savings and according to fleet forum (2012), better acquisition, management and disposal of vehicles could save 12-17% of fleet resource.

(Bass,2012) his work entitled fleet management commitment to fuel efficiency with the aim of identify ways of overcoming the barriers faced by managers of new Zealand s light and heavy vehicles fleets took place case studies of seven giant companies incorporates in fleets management practices identified that the nature of transport in new Zealand and those in other countries are significant different because of the nature of the transport task ,the road

environment ,fleet composition ,fleet ownership structure, fleet management culture, regulation ,compliance, and enforcement .these difference mean that new Zealand solutions need to be founded other than the way of the united kingdom (UK) the united states of America (USA) and Canada ,have implemented very successful schemes in improving the fuel efficiency.

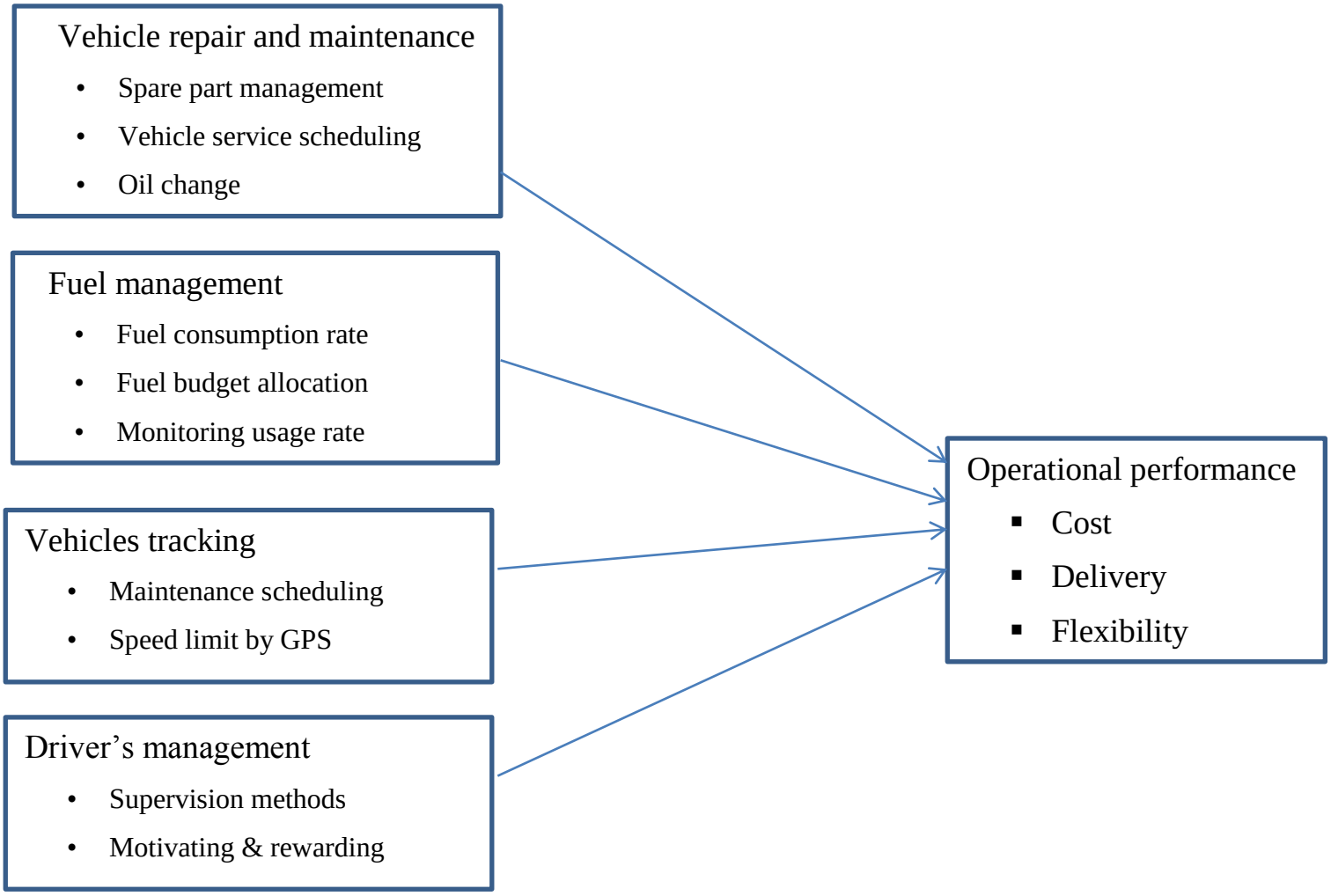
In generally, a summary of the literature review of fleet management majorly involves minimization of risks Associated with fleet management efficiency, improving effectiveness, enhancing responsiveness reduction of overall transportation costs. Vehicles fleet management takes good care of the organizations vehicle assets which include light vehicles ,heavy vehicles (Gitahi & Karanja,2016).fleet management is structured in a manner to capture vehicles information in cluding distance travelled ,destination reached, fuel consumption ,repair and maintenance per vehicle ,servicing planned and completed(Hu et al.,2015;Jalba et al.,2010;Popovic &Habjan,2012).

2.6 Conceptual framework

This section presents the conceptual framework for this study. Theories and concept put to gather as a map for the study showing relationships of research variables are called conceptual framework (Mugenda, 2008).the relationship of the independent variables and dependent variable are shown in the conceptual framework. The operational performance is considered as dependent variable. Vehicle repair and maintenance, fuel management, vehicle tracking and driver management are considered as independent variable.

Figure 1 .Conceptual framework

Independent Variable **Dependent Variable**



Source: adapted from Gitahi and Ogollah (2014).

CHAPTER THREE

Methodology

3.1 Description of the study area

Trans Ethiopia plc is a trucking company established in April 1993 to provide dry and liquid cargo transportation service.it have 240 trucks and above 1800 employees .it also involved in other business activities such as importing and distribution of tiers, selling fuel, maintain its truck in its own garage workshops as well as its own training center for drivers and technicians.

3.2 Research approach

The study was used both quantitative and qualitative (mixed approach) to collect, organize and analyze the data. According to Creswell (2012) we use both quantitative and qualitative research approach to gain a more comprehensive and nuanced understanding of research topic, leveraging the strength of each method to address different aspects of the study. Quantitative research approach provides data that is objective, generalizable and allows for Statistical analysis. Whereas Qualitative research approaches offers in – depth insight into experiences, perspectives, helping to understand the "why "behind the observed phenomena.

3.3 Research Design

This study was done by using both the explanatory and descriptive research design .According to Zikmund et al., (2012) explanatory research is used in order to identify the extent and nature of cause and effect relationships. Causal studies focus on analysis of a situation or a specific problem to explain the patterns of relationship between variable.therfore the reason to use explanatory research design for this study is to justify the cause – effect relationship between the study variables (vehicle repair and maintenance, fuel management, vehicle tracking and driver management) on operational performance. The Descriptive research design helps to describe the data in detail.

3.4 Hypothesis Testing

This research has the following hypothesis

Ha: A significant relationship exists between vehicle repair, maintenance and operational performance.

Ha: A significant relationship exists between fuel management and operational performance.

Ha: A significant relationship exists between vehicles tracking and operational performance.

Ha: A significant relationship exists between driver management and operational performance.

3.5 Target Population and Sampling Techniques

The transport division of Trans Ethiopia was the target population .fleet officers /Managers, vehicles technician and drivers of Trans Ethiopia specifically was included in the study.

For the purpose of this study, the researcher was used the probability sampling technique particularly simple random sampling in order to give the target population an equal chance of being selected .it has been stated that the logic behind simple random sampling is that it removes bias from the selection procedure and should result in representative samples Gravetter, F.J & Forzano, L.B. (2011).

The sample size for this study is calculated based on Yamane, (1967). I use Yamane formula because the population is large and also it provides a quick, easy to calculate sample size without complex statistical assumptions. The target population size is 305 employees .the sample is determined using simple random sampling method.

The formula to calculate

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

n =sample size

N = total population

e = margin of error acceptable or measure of precision is 0.05

$$n = \frac{305}{1 + 305(0.05)^2}$$

So n = 174

The sample size is 174 employees.

3.6 Data collection procedures and data collection methods

Before the beginning of the data collection the researcher tried to get the necessary approval and authorization from the concerned Trans Ethiopia authorities .then the respondent was communicated to get their consent .after getting their consent, the prepared questionaries' was distributed to each participant .the questionnaires had three parts, the first part explains the purpose of the questionarie;the second part comprises profile of respondent and the third part includes the research questions . The questionnaires was prepared by 5 point likert scale and interviws.in order to encourage respondents and to maximize chance of obtaining adequate responses, the length of the questionnaires was taken in to consideration. Accordingly , respondent indicate there level of agreement on 5 point likert scale with the following ratings; Strongly Disagree (1) , Disagree (2), Neutral (3), Agree (4), Strongly agree (5). The questioner was collected by checking the completeness of the data and by giving appreciation for their participation on the research.

The required data for the study was collected using both Primary and secondary method of data collection. Primary data was collected from the section of selected group which was the result of the questionnaier.Respondants who filled the questionnaire were a source of primary data. The fleet management questionnaires include vehicles repair and maintenance, fuel management, driver training and vehicles tracking. The secondary data was collected from documents and websites.

3.7 Method of data analysis

For the analysis of the study the researcher was used descriptive statistics and inferincal statistics.

The data that was collected from the structured questionnaire was analyzed using SPSS version 27 as followed. The demographic information obtained from the respondents was analyzed and presented using descriptive statistics in form of frequency and percentage. To evaluate the fleet management practice (the independent variables) measures of central tendency like mean and standard deviation was used. to determine the relationship between fleet management practice (independent variables) and operational performance correlation analysis (Pearson correlation) was used. to investigate the cause and effect analysis the multiple liner regression was used. The justification to use multiple liner regression my research aims to investigate the effect of multiple independent variables on a single, quantitative dependent variable so the multiple liner regression

is explicitly designed for this purpose .it allows me to know the relationship between several predictor variables and continuous outcome variable. this directly aligns with my main hypothesis that integrated fleet management practice affect operational performance.

3.8 Validity and Reliability TEST

3.8.1 Validity

The scientific soundness of a research finding is determined by the validity of the instruments used all. All possible effort was exerted to make the data collection instrument easily understandable to the respondents so that the intended information can be collected thereby increasing trustworthiness of the ultimate findings.

3.8.2 Reliability test

Reliability is concerned with the internal consistency of the items .Hair et al (2006) defined reliability Test as the extent to which a variable or asset of variable is consistent in what it is extended to measure. As this study uses multiple items in all variables, internal consistency analysis carried out through Cranach's alpha reliability test.cronbach alpha tests to see if multiple question likert scale surveys are reliable. The minimum acceptable value is cronbach alpha 0.7.in this study the internal consistency or reliability of fleet management practice and operational performance were assessed with cronbach alpha. Accordingly the overall cronbach alpha is 0.968.which indicates good internal consistency of items.

Table 3.1 Reliability Test of Variables Using Cranach Alpha

No	variables	Cranach's Alpha	NO OF ITEMS
1	Repair and maintenance	.837	6
2	Fuel management	.935	4
3	Vehicle tracking	.912	6
4	Driver management	.727	4
5	Operational performance	.921	6
	Overall	.968	26

Source: survey result, 2025

3.9 Ethical Consideration

To induce an interest on the study workers under the fleet management was informed about the purpose and objectives of the study .the information obtained from the questionnaires is kept Confidential and it is not used for any other purpose. Finally the researcher notices that it is not necessary to write the name of the respondent on the questionnaires.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.1 INTRODUCTION

In this chapter the data collected using questioner was presented and analyzed .descriptive and inferincal statistics was used to present, analysis and interpret the result of the study. The first part consists the demographic information of the respondents, the second consists the quantitative data and third part consist the qualitative data interview. A total of 174 questionnaire were distributed and out of that 130 (75%) were returned and used for analysis. The collected data was presented and analyzed by using SPSS version 27.the interview data was collected from the fleet officers of the company.

4.2 Demographic Information of Respondents

In the following table, the demographic information of respondents is presented. These include Gender, Age, Educational level and work experience of respondents.

Table 4.1 Demographic Information of Respondents.

Description		Frequency	Percent
Gender	Male Female Total	118 12 130	90.8 9.2 100.0
Age	18-25 25-35 35-45 >45 Total	9 48 52 21 130	6.9 36.9 40.0 16.2 100.0
Educational level	Certificate Diploma Degree Master Total	31 41 53 5 130	23.8 31.5 40.8 3.8 100.0
Work experience	<1years 1-5years 6-10year >10years Total	1 15 37 77 130	8 11.5 28.5 59.2 100.0

Source: Own Survey , 2025

Gender information of the sampled respondent, indicates that 90.8% was male and 9.2% was female. This indicates majority of the employees in the fleet department of Trans plc are males because track driving, often perceived as physical demanding and solitary profession, has been viewed as more suited for men and the other reason is the demanding nature of tracking, with long hours and frequent travel, can make it difficult for women with family responsibilities to balance work and personal life.

The age group of the respondent indicates that the largest portion of the respondents that means 40% falls within the age group of 35-45, 36% of respondents falls within the age of 25-35, 16.2 %falls within age of greater than 45 and the remaining 6.9 % goes to age 18-25.From this the researcher conclude that the majority of the employees are in actively working age group that can be able to transform the mission and

vision of the company.

From the above data 53 respondents (40.8) % have degree,41 respondents (31.5)% have deploma,31respondents (23.8)% have certificate and the remaining 5 respondents(3.8)% have masters and above. From the educational information majority of the respondents are degree and diploma holders .
So the respondents provide relevant information that is important for the study.
From the total respondents, 59.2% are categorized at work experience of Greater than 10 years, 28.5% falls at work experience of 6-10 years, 11.5% are categorized from 1-5 years of experience, and the remaining 8% is less than one year. From this it can be concluded that 88% or the majority of the respondents have above six years' experience in the company.

4.3 Descriptive analysis

4.3.2 Mean and Standard deviation for Repair and Maintenance

Table4.2: Descriptive Statistics of repair and maintenance

Repair and maintenance	Mean	Std.deviation
The organization has successful vehicle repair and maintenance control system	3.71	1.137
The organization has regular vehicle servicing time schedule	3.68	1.101
The organization has well organized control mechanisms for spare part used for vehicle repair and maintenance	3.51	1.021
The repair and maintenance garage complete the service on time	3.32	1.129
Drivers of the organization gives proper feedback for fleet department about repair and maintenance service of the assigned vehicles	3.55	1.050
The practice of preventive maintenance in your company is remarkable	4.05	1.026

Source: Own survey, 2025

According to the descriptive statistics the statement that "the practice of preventive maintenance in your

Company is remarkable have high mean value with M= 4.05 and SD =1.026 that means the employees agreed with the statement. The organization has successful vehicle repair and maintenance control system have mean value 3.71 and SD =1.137, followed by the organization has regular vehicle servicing time schedule M= 3.68 and SD=1.101. The repair and maintenance garage complete the service on time have the lowest mean with M=3.32 and SD=1.12 followed by drivers of the organization gives proper feedback for fleet department about repair and maintenance service of the assigned vehicles M=3.55 and the organization has well organized control mechanisms for spare part used for vehicles repair and maintenance. The average mean for all six statements is 3.64, which is positive. This suggests that the overall repair management system at Trans Ethiopia is perceived as moderately to largely effective. However the significant dip for statement four highlights a specific, critical area that is dragging down the overall performance and causing employee dissatisfaction or concern. Addressing the issue behind statement four represents the biggest opportunity for Trans Ethiopia to improve its operational performance.

4.3.3 Mean and Standard deviation for fuel management

Table4.3: Descriptive Statistics for Fuel Management

Fuel Management	Mean	Std.deviation
The organization is successful in overall fuel management system	3.12	1.392
The organization has set standard on fuel consumption rate per vehicle	3.61	1.145
The organization allocate enough fuel coupon for long distance area	3.55	1.195
The organization has a timely follow up for fuel consumption	3.63	1.058

Source :Own Survey , 2025

The descriptive statistics result shows that ‘the organization has a timely follow up for fuel consumption have the highest mean value with M=3.63 and SD=1.058 followed by the organization has set standard on fuel consumption rate per vehicle with M=3.61 and SD=1.145. Both indicate high mean value that

means the organization is doing well at both statements. Whereas the organization is successful in overall Fuel management have the lowest mean value with M=3.12 followed by the organization allocate enough fuel coupon for long distance area with mean value 3.55 and SD=1.195. This implies that the company is good at the mechanics but poor at the outcomes. They have the necessary systems in place they set standards (M=3.61), allocate fuel (M=3.55), and follow up (M=3.63).however they do not perceive the overall system as successful (M=3.12).in generally this implies that the actions are not translating into tangible success, such as significant cost savings or efficiency gains.

4.3.4 Mean and Standard deviation for vehicle tracking

Table4.4 :Descriptive Statistics Of Vehicle Tracking

Vehicle Tracking	Mean	Std.deviation
The organization use vehicle tracking system for fleet management	3.57	1.181
The organization has modern technology of GPS for vehicle tracking system	3.59	1.090
The organization has installed vehicle tracking system on all of the organization vehicle	3.45	1.264
The organization assigned a person to monitor and manage the GPS tracking system	3.52	1.108
The organization use the tracking system to manage fuel consumption and maintenance scheduling	3.38	1.202
The organization use telematics technology to monitor and manage vehicles	3.14	1.274

Source :Survey result ,2025

The descriptive statistics result shows that the organization has modern technology of GPS for vehicle tracking system have high mean value with M= 3.59 and SD=1.090 followed by the organization use vehicle tracking system for fleet management with mean value of 3.57. The organization use telematics technology to monitor and manage vehicles have the least mean value with M=3.14 followed by The organization has installed vehicle tracking system on all of the organization vehicle with M=3.45 and SD=1.264The organization use the tracking system to manage fuel consumption and maintenance scheduling with M=3.38 and The organization has installed vehicle tracking system on all of the organization vehicle with M=3.45

and SD=1.264.genrally this result implies that trans Ethiopia has the tool but it is not getting the full value from it .the scores for having the system (3.75),the technology (3.59) and assigned staff (3.52) are all positive. However the scores for using the system for strategic purposes for fuel or maintenance M=3.38and telematics M=3.14 are neutral .this means the company is treating vehicle tracking as a simple monitoring tool (to see where vehicles are) rather than as a performance optimization tool.

4.3.5 Mean and Standard deviation for driver management

Table4.5: Descriptive statistics of driver management

Driver Management	Mean	Std.devation
The organization has well organized supervision method on drivers	3.55	1.020
the organization has a habit of motivating and rewarding an exemplary drivers	3.42	1.268
The organization has successful performance evaluation system for drivers	4.35	.070
Drivers are responsible for safe ,neat and lawful operation of the assigned vehicle	3.68	.989

Source: Own Survey, 2025

The descriptive statistics shows that ‘ the organization has successful performance evaluation system for drivers have high mean value with M=4.35 that indicates the respondents are near to the total agreement with the statement .the drivers are responsible for safe ,neat and lawful operation of the assigned vehicle have a mean value of 3.68 and SD= .989 followed by the organization has well organized supervision methods on drivers with M=3.55 and SD=1.020 .the organization has a habit of motivating and rewarding an exemplary drivers have the lowest mean with M=3.42 and SD= 1.26.this implies that the company has built a very solid foundation in driver management with highly effective supervision (M=3.55),a stellar performance evaluation system (M=4.35) and a strong culture of responsibility (M= 3.67).this excellent platform to build upon.

4.3.6 Mean and standard deviation for operational performance

Table 4.6 Descriptive statistics for operational performance

Operational performance	Mean	Std.devation
The company focus on decreasing transportation cost	3.52	1.129
The company focus on increasing fuel saving	3.66	1.285
The company looks at provision of variety of services(it is flexible)	3.72	.950
The company seeks to offer readily available service(it have good delivery system)	3.54	1.176
The company seeks to improve communication	3.65	.978
The organization looks at reducing lead time	3.85	1.035

Source: Own Survey , 2025

The descriptive statistics shows that the organization looks at reducing lead time have the highest mean value with M=3.85 indicates the respondent have strong agreement with the statement. Followed by the company looks at provision of variety of services (it is flexible) with M=3.72 and SD=.950. The company focus on decreasing transportation cost have the lowest mean value with M=3.52 followed by The company seeks to offer readily available service (it have good delivery system) and The company seeks to improve communication both have respectively a mean value of M=3.54, SD=1.176 and M=3.65, SD=.978.the overall mean of 3.79 is excellent .the highest score on "reducing lead time" M=3.95 suggests that trans Ethiopia has successfully built its operational identity around speed and reliability .and this is a powerfuel market position.

4.4 Pearson correlation analysis

Pearson correlation is statistical measure that quantifies the strength and direction of a linear relationship between two variables. The value ranges from -1 to +1, where:

+1: indicates a perfect positive liner relationship (as one variable increases, the other increases proportionally).

-1: indicates a perfect negative liner relationship (as one variable increases, the other decreases proportionally.

0: indicates no liner relationship. Stronger association between the two set of data is indicated by a higher correlation value.

Correlation

Table 4.7 Correlation matrix between fleet management practice and operational performance.

		OPERATIONAL	REPAIRE	FUEL	VEHICLE	DIRIVER
OPERATIONAL	Pearson Correlation	1				
	Sig. (2-tailed)		.000	.000	.000	.002
	N	130	130	130	130	130
REPAIRE	Pearson Correlation	.657**	1		.	
	Sig. (2-tailed)	.000				
	N	130	130			
FUEL	Pearson Correlation	.655**	.615**	1		
	Sig. (2-tailed)	.000	.000			
	N	130	130	130		
VEHICLE	Pearson Correlation	.711**	.520**	.607**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	130	130	130	130	
DIRIVER	Pearson Correlation	.263**	.238**	.401**	.178*	1
	Sig. (2-tailed)	.002	.006	.000	.043	
	N	130	130	130	130	130
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

Based on the correlation result

Repair and maintenance have R= 657***, P<0.01. The result shows that there is a moderately strong positive correlation between repair and operational performance. This means that as

operational performance increase repair needs tend to increase as well.

Fuel management have R=655***, P<0.01.the result also shows that there is a moderately strong positive correlation between fuel management and operational performance. This means that as operational performance increase fuel management needs tend to increase as well.

Vehicle tracking have R=711***, P<0.01.the result shows that strong positive correlation exists between vehicle tracking and operational performance. This means vehicle tracking improves, operational performance tends to improve as well.

Driver management have R=263, P<0.01.the result indicates that a weak positive correlation exist between driver management and operational performance. This means that as driver management practice improve, there is a slight tendency for operational performance to also improve, but the relationship is not very strong.

Generally the correlation indicates that vehicle tracking have strong correlation with the operational performance above all, followed by repair and fuel management but driver management have weak correlation with operational performances.

4.5 Regression analysis

4.5.1 Multiple regression analysis

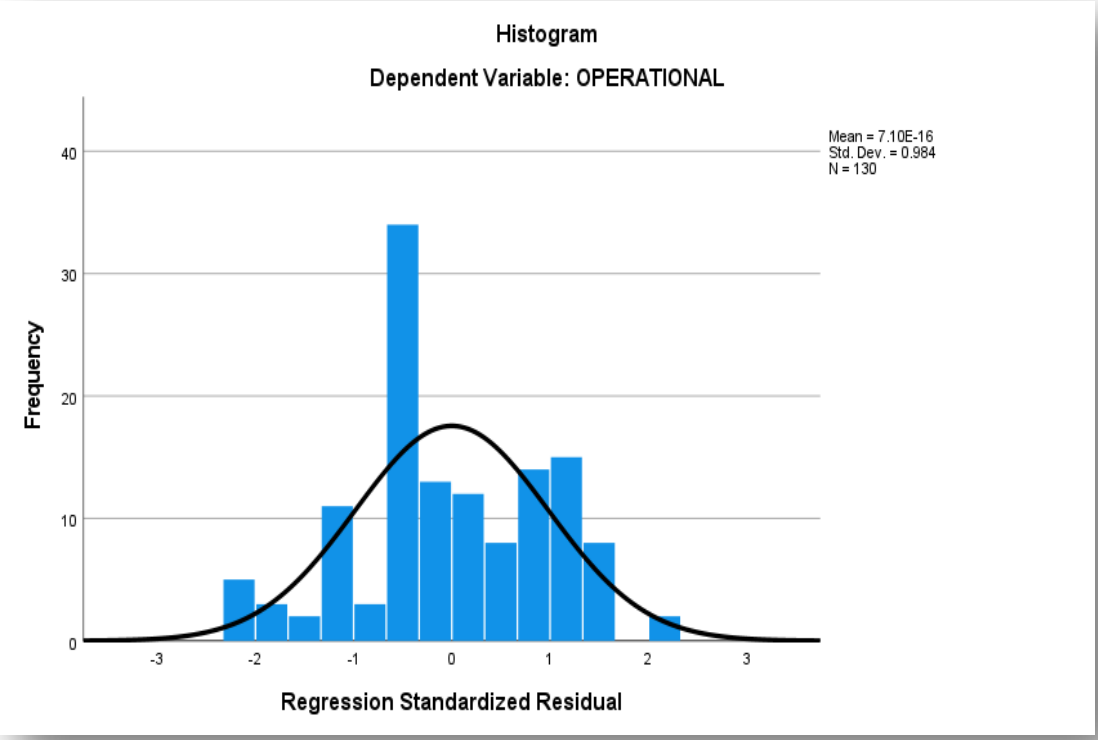
Before running multiple regression analysis, the researcher has conducted basic assumption test for the model.

Assumption test 1.Normality Test.

Normality of Residual: this assumption requires that the residuals (the difference between the observed and predicated values of the dependent variable) are normal distributed.

In normality test, a histogram indicates whether a datasets distribution resembles a bell-shaped curve, which is characteristics of a normal distribution .a histogram that is roughly symmetrical and bell –shaped suggests normality, while deviations like extreme skewness or outliers indicates non –normality. So the histogram indicates that the data set is normally distributed.

Figure.4.1 Normality test



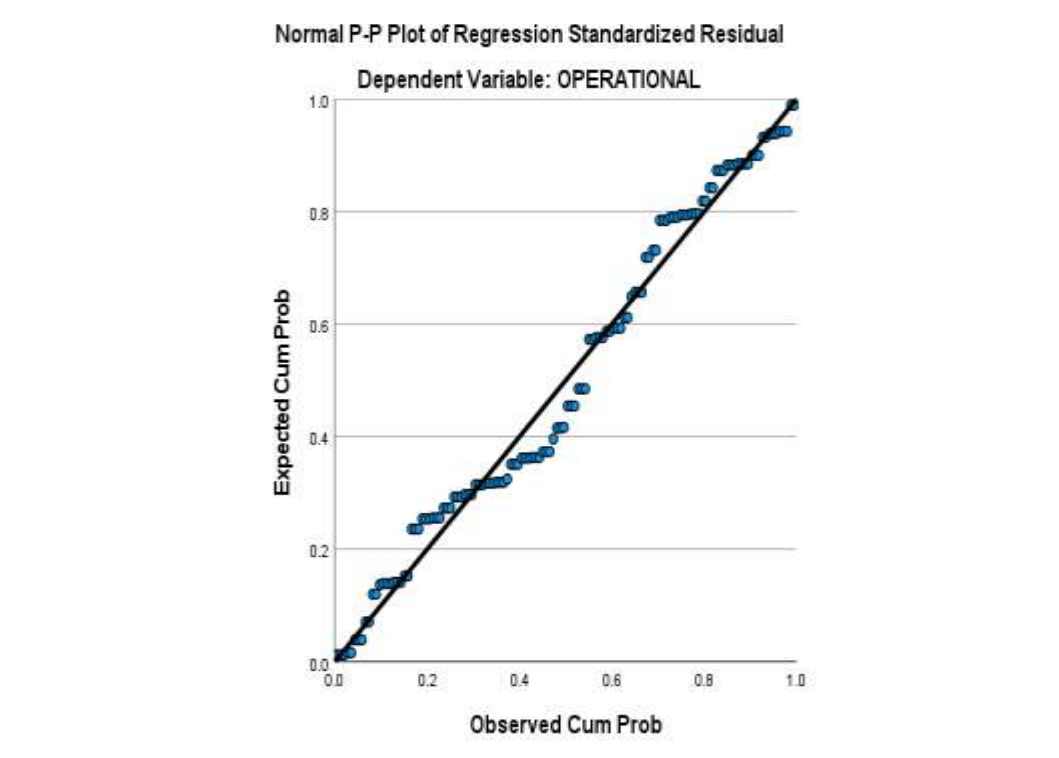
Source: Own Survey , 2025

The histogram indicates that the dataset distribution resembles a bell –shaped curve that means the data is normally distributed.

Assumption 2. Linearity Test

In linearity test, a p-p (probability –probability) plot compares the cumulative distribution of the data against a theoretical normal distribution. If the data are normally distributed, the points on the p-p plot will closely follow a straight diagonal line .deviation from this line suggest that the data are not normally distributed.so the p-p plot also indicates the data is normally distributed because the p-p plot is closely following straight diagonal line.

Figure 4.2 Linearity test



Source: Own Survey , 2025

The figure indicates that that the data are normally distributed.

4.5.2 Model summery

Regression analysis between fleet management practice and operational performance

Model summery

Table 4.8 model summery

Model	R	R Square	Adjusted R Square	Std.Error of the Estimate
1	.791[a]	.726	.614	2.972

a. Predictors: (Constant), DIRIVER, VEHICLE, REPAIRE, FUEL

b. Dependent Variable: OPERATIONAL

In the model summary table: R measures the correlation strength and direction of relationship between independent and dependent variables, so the R value .791 indicates a strong correlation

between independent and dependent variables. The R2 indicates the amount that the independent variables explained the dependent variable .so the R2 value of .626 (62.6%) shows that the independent variable explains the dependent variable by 62.6%. and the remaining 36.4% explained by other variables.

4.5.3 ANOVA Model Fit

Table4.9: Anova result between fleet management practice and operational performance

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	1848.177	4	462.044	52.294	.000[b]
	Residual	1104.446	125	8.836		
	Total	2952.623	129			

a. Dependent Variable: OPERATIONAL
b. Predictors: (Constant), DIRIVER, VEHICLE, REPAIRE, FUEL

The regression model overall fit can be examined with the help of ANOVA according to the table the study shows that the value of R andR2 found from the model summery is statistically significant at F=52.294 ,P < 0.001 and it can be said that there is relationship between fleet management practice and operational performance .

4.5.4 Beta coefficient

Table 4.10 Regression coefficient between fleet management practice and operational performance.

Model		Unstandardized coefficients		Standardized coefficients	T	Sig
		B	Std.error	Beta		
1	(constant)	2.443	1.430		1.708	.090
	Repair	.424	0.78	.388	5.431	.000
	Fuel	.289	0.63	.337	4.592	.000
	Vehicle	.474	0.66	.513	7.215	.000

	Driver	.066	0.43	.093	1.552	.123

A.Dependant Variable: Operational Performance

4.6 Hypothesis Testing

We accept Alternative hypothesis If B >0.05 AND P<0.05.

The first hypothesis of the study was (Ha1).significant relationship exists between repair and maintenance. The coefficient result shows that repair and maintenance have B=.388 and p =000, Repair and maintenance have B>0.05 and p <0.05.the result shows that the alternative hypothesis is accepted .so we conclude that repair and maintenance have significant relationship with operational performance.

The second hypothesis was (Ha1). Significant relationship exists between fuel management and operational performance. The coefficient result shows that fuel management have B=337and p=000. Fuel management have B>0.05 and p<0.05.the result shows that the alternative hypothesis is accepted.so we conclude that fuel management have significant relationship with operational performance.

The third Hypothesis was (Ha1): Significant relationship exists between vehicles tracking and operational performance. Standardized beta coefficient shows that vehicle tracking have B=.513, p= 000. Vehicle tracking have B>0.05 and P <0.05.so the Alternative hypothesis is accepted. We conclude that vehicle tracking have significant relationship with operational performance.

The forth Hypothesis was (Ha1): Significant relationship exists between driver management and operational performance. Standardized coefficient beta for driver indicates that B=.093, p=.123.driver management have B> 0.05 but P>0.05.so the Alternative hypothesis is rejected. We conclude that driver management have insignificant relationship with operational performance.genrally the coefficient result indicates that driver management is insignificant but repair and maintenance, fuel management ,vehicle tracking have significant relationship with the operational performance and these implies that if trans Ethiopia wants to improve its operational performance, it's should focus its resource and management attention on vehicle tracking ,repair management and fuel management.

4.7. Interview answer

1. It affects the company operational performance by optimizing cost, enhancing flexibility and improving delivery process.

- Cost optimization

Fleet management system can help optimize routes, reduce fuel consumption and implement efficient maintenance practice, leading to significant cost savings.

- Reduced downtime

Effective maintenance management and proactive repairs can minimize vehicles breakdowns and associated downtime leading to reduced operational costs.

- Enhanced flexibility

By monitoring driver behavior and providing feedback, fleet management system can help improve driver efficiency and reduced errors leading to greater flexibility in scheduling and task completion.

- Improved delivery process

GPS tracking and real time provide visibility in to vehicles location and progress enabling the company to monitor delivery timelines and make adjustment as needed.

2. Preventive maintenance means being prepared and preventing problems before they happen. The company use planned maintenance. Planned maintenance is a proactive maintenance strategy where maintenance tasks are scheduled and performed at predetermined intervals based on time, usage or other defined triggers.

Among the company's preventive maintenance policy.

Regular inspections

- Pre –trip and post –trip inspection: means drivers regularly check vehicles for issues before and after trips.
- Comprehensive vehicle inspections: regular checks by mechanics to identify potential problems with brakes, tires, fluids, etc.

Repair and replacement

- Addressing identified issues quickly to prevent further damage and ensure safety.

3. No, they are not ecofriendly because the trucks currently operating are diesel powered that means they release pollutants like nitrogen oxides that contributes significantly to greenhouse gas emissions and air pollution.

4. Trans Ethiopia plc. Gives training for its drivers like safety, compliance and specialized skills.

   Among the training that is given to drivers:

- A training that focus on techniques to avoid accidents, including managing speed, space.
- Pre –trip inspection and basic maintenance to prevent breakdowns. training on identifying and responding to potential hazards on the road.
- Covers maneuvering the vehicles safely, especially with heavy load.

5. The company does not own electric tracks, all the company trucks use fuel.

4.8 Discussion and result

The data shows that from 130 respondents 90.8% are male and the rest are female. From the age group, 76.9 respondents range from 25 to 45 showing that adults are dominant age groups. those completing college and university account for 75.6%.which means the understandability of the research tool for this study is good.87.2% of the respondents have above 6 years of experience which could have positive impact the research out come since it is believed that they are aware of the area of interest.

The correlation between the predictor's variables and operational performance. The predictors variables are all positively correlated with operational performance , with vehicle tracking having the strongest correlation .the correlation result suggests that vehicle tracking ,repair and maintenance, fuel management, driver management are all positively associated with operational performance. the strong correlation of vehicle tracking with operational performance is a clear signal that investment in telematics and GPS technology are valued by the staff and are seen as effective.

In generally the correlation result indicates that the trans Ethiopia employees belief in vehicle tracking which acts as the central nervous system, but they also strongly value structured process repair and maintenance, fuel management and driver management.

The model summary table shows that the multiple regression models is significant, with an R-

squerd value of .626 this means that the model explains 62.6% of the variance in operational performance.

The anova table shows that the regression model is significant at, f=52.294,p<.0001.this means that the model explains significant portion of the variance in operational performance. The model also shows the predictors repair and maintenance, fuel management, vehicle tracking and driver management are all significant predictors of operational performance.

Finally the hypothesis testing result indicates that the independent variables repair and maintenance, vehicle tracking, fuel management have a significant relationship with the dependent variable (operational performance) but driver management have insignificant relationship with operational performance. The insignificance of driver management points to potential area for improvement indicating that the existing practice is not effectively translating into measurable performance gain possibly due to issues in implementation.

these findings are consistent with existing fleet management literature .the strong impact of vehicle tracking aligns with the work of Mwangi and Kari (2021),who identified telematics as the most critical practice due to its role in enabling data driven decision making. Similarly, the significance repair and fuel management supports the findings of Kariuki and Kagiri(2019),who established their vital role in reducing downtime and costs. The driver management was found to have a weak and statistically non-significant relationship with operational performance. This finding finds support in the study by Omondi and Kwasira(2020),who is also reported anon – significant direct effect of driver management.

Chapter five

Summary, Conclusion and Recommendation

5.1 summary of findings

The study aim was to investigate the effect of fleet management practice on operational performance in case of TRANS Ethiopia plc. The specific objectives of the study include examining the relationship between repair and operational performance, to examine the relationship between fuel management and operational performance, to identify the relationship between vehicle tracking and operational performance, to identify driver management with operational performance.

The study used both quantitative and qualitative research approach to collect, organize and analyze the data. The study also used both explanatory and descriptive research design. The simple random sampling methods was used to collect the data,130 sample respondents were used to the analysis .the required data was collected using both primary and secondary methods of data collection. The data that was collected from the survey questionnaire was analyzed using SPSS version 27.

The demographic information was analyzed using descriptive statistics in form of percentage and frequency.to evaluate the fleet management practice measure of central tendency like mean and standard deviation was used.to determine the relationship between independent and dependent variable the Pearson correlation was used.to investigate the relationship between dependent and independent variable the multiple regression was used. Finally the interview was analyzed.

5.2 Conclusion

The main objective of the study is to investigate the effect of fleet management practice on operational performance in case of TRANS Ethiopia plc. The specific objectives of the study include examining the relationship between repair and operational performance, to examine the relationship between fuel management and operational performance, to identify the relationship between vehicle tracking and operational performance, to identify the relationship between driver management and operational performance. Based on the findings the following conclusions are drawn.

The key performance indicators are practiced in the company in a good manner. And all the fleet management practice is practiced in the company from neutral towards agreement with the statement.

The coefficient result shows that repair and maintenance have B=.388 and p =000, Repair and maintenance have B>0.05 and p <0.05.the result shows that the alternative hypothesis is accepted .so repair and maintenance have significant relationship with operational performance.

The coefficient result shows that fuel management have B=337and p=000. Fuel management have B>0.05 and p<0.05.the result shows that the alternative hypothesis is accepted.so fuel management have significant relationship with operational performance.

Standardized beta coefficient shows that vehicle tracking have B=.513, sig.000. Vehicle tracking have B>0.05 and P <0.05.so the Alternative hypothesis is accepted. Vehicle tracking have significant relationship with operational performance.

Standardized coefficient beta for driver indicates that B=.093, sig.123.driver management have B> 0.05 but P>0.05.so the Alternative hypothesis is rejected. so that driver management have insignificant relationship with operational performance.genrally the coefficient result indicates that driver management is insignificant but repair and maintenance, fuel management ,vehicle tracking have significant relationship with the operational performance.

The correlation indicates that vehicle tracking have strong correlation with the operational performance above all, followed by repair and fuel management but driver management have weak correlation with operational performances.

Among the fleet management practice repair and maintenance, vehicle tracking, fuel management has statistically positive relationship with operational performance. Driver management has statistically significant but weak positive relationship.

Vehicle tracking played the most significant role to increase the operational performance.

5.3 Recommendations

Based on the findings the following recommendation is given.

- The company investment in vehicle tracking, repair and maintenance and fuel management are working effectively and are core drivers of the operational performance.so the company have to keep investing on these practice.
- The driver management system is not translating into measurable performance gains this is the company's untapped potential for significant improvement .among these the company should give driver training in deep because training can lower accident rates leading to fewer vehicle repairs and reduced down time.
- It has to build culture of rewarding and motivating exemplary drivers because it motivates other drivers to do the same.
- The company should have increase efforts to maximize the all fleet management practice in order to increase the operational performance of the company.
- The company should have to buy electric tracks to improve efficiency, reduce cost and to minimize environmental impact.

5.4 Suggestion for Future Studies

Next researchers who have an interest of conducting a research on the effect of fleet management practice on operational performance can add the following points to their research.

- Increasing the number of fleet management practice or the independent variables such as vehicle replacement and disposal, sustainability and compliance.
- Expanding theoretical framework that means integrating a multiple theory that helps to explain how fleet management practice affect operational performance.
- Exploring fleet management effect on operational performance on other industries like manufacturing.
- Broadening the scope of the study from one organization into two or more may also be an option.

Reference.

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APPENDIX

MEKELLE UNIVERSITY
COLLAGE OF BUSSINESS AND ECONOMICS
SCHOOL OF MANAGEMENT
DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGMENT
QUESTIONARIE

DEAR RESPONDANT

This questionnaire is designed to gather data on "the effect of fleet management practice on operational performance .the purpose of the study is to fulfill thesis requirement for master of art in logistics and supply chain management .the information you provide will be used only for purpose of the study and will be kept confidential .the soundness and validity of the finding highly depend on your kind and genuine responses.so I kindly request you to respond to each items of the question vary carefully.

Thank you in advance.

Instructions

- No need of writing your name
- Please put tick **(√)** mark in the box for your answer
- If you require further clarification please contact me at email address berhanteka2566@gmail.com or Phone number 0977192566.

Part one: Demographic information

1. Gender : Male ☐ Female ☐

2. Age: 18-25 ☐ 25-35 ☐ 35-45 ☐ Over 45 ☐

3. Educational qualification: certificate ☐ Diploma ☐
Degree ☐ Master and above ☐

4. Work Experience Less than one year ☐
1- 5 years ☐
6- 10 years ☐
Above 10 years ☐

Part Two: Fleet management practice and operational performance.

The following questions are about how your organization has been implementing fleet management practice to achieve operational performance and the operational performance measurement. Please indicate the level your agreement and disagreement using the **(**√) on the following question based on your experience in your company on the fleet management practice.

The rating is from 1.Strongly disagree 2. Disagree 3.Neutral 4.Agree 5.Strongle agree.

No	Items	1	2	3	4	5
	Vehicle repair and maintenance					
1	The organization has successful vehicle repair and maintenance control system					
2	The organization has regular vehicle servicing time schedule					
3	The organization has well organized control mechanisms for spare part used for vehicle repair and maintenance					
4	The repair and maintenance garage complete the service on time					
5	Drivers of the organization gives proper feedback for fleet department about repair and maintenance service of the assigned					

	vehicles					
6	The practice of preventive maintenance in your company is remarkable					
	Fuel management system					
1	The organization is successful in overall fuel management system					
2	The organization has set standard on fuel consumption rate per vehicle					
3	The organization allocate enough fuel coupon for long distance area					
4	The organization has a timely follow up for fuel consumption					
	Vehicle tracking					
1	The organization use vehicle tracking system for fleet management					
2	The organization has modern technology of GPS for vehicle tracking system					
3	The organization has installed vehicle tracking system on all of the organization vehicle					
4	The organization assigned a person to monitor and manage the GPS tracking system					
5	The organization use the tracking system to manage fuel consumption and maintenance scheduling					
6	The organization use telematics technology to monitor and manage vehicles					
	Driver training and management					
1	The organization has well organized supervision method on drivers					
2	the organization has a habit of motivating and rewarding an exemplary drivers					
3	The organization has successful performance evaluation system for drivers					
4	Drivers are responsible for safe ,neat and lawful operation of the assigned vehicle					

	Operational performance					
1	The company focus on decreasing transportation cost					
2	The company focus on increasing fuel saving					

3	The company looks at provision of variety of services(it is flexible)					
4	The company seeks to offer readily available service(it have good delivery system)					
5	The company seeks to improve communication					
6	The organization looks at reducing lead time					

Part three: Interview Question

1. How does fleet management practice affect the operation performance of your company in terms of cost, flexibility and delivery?
2. What is your company's policy regarding preventive maintenance?
3. Are the company vehicles ecofriendly (suitable to the environment)?
4. Does the company give driver training?
5. Does the company use cost saving electric car ?