ZCAS UNIVERSITY

DISSERTATION

EVALUATING THE EFFECT OF MONTHLY FUEL REVIEW ON PERFORMANCE OF LONG-DISTANCE BUS OPERATORS AT INTERCITY BUS TERMINUS IN LUSAKA

By

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Declaration

I declare that this dissertation has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where stated otherwise by reference or acknowledgement, the work presented is entirely my own.

Student: Noel W. Konga

Student Signature: 

Supervisor: ……..

Signature: …….

Dedication

This dissertation is sincerely dedicated to my mother, Doreen Mutembu, my beautiful wife, Priscilla Phiri Konga, my children, Wana Konga, Dalitso Konga and Kukeng'a Konga in appreciation of their love, prayers, assistance, and support along my academic career.

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God, the Almighty, deserves all the glory for His mercy and goodness during this journey and for helping me reach another milestone in life.

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Abstract

The overall objective was to evaluate the impact of monthly fuel reviews on the performance of long-distance bus operators at the Intercity Bus Terminus in Lusaka, with focus on the independent variables; Adherence to monthly fuel reviews, Cost management practices and Operational performance metrics. It was a mixed methodological approach, using both quantitative and qualitative instruments to collect the data. The research philosophy was positivism and a deductive approach was undertaken to investigate whether monthly fuel reviews promoted bus operators' performance, through revealing causal relationships. Methods: Data were collected through surveys, interviews and document analysis from a sample size of 80 bus operators selected using non-probability purposive sampling techniques. From the findings it was established that monthly fuel reviews, and cost management practices were significantly associated with operational performance metrics, demonstrating the importance of combined approaches in achieving operational efficiency and spurring sustainable growth in the long-distance bus operator sector. Policy implications were also recommended in order to promote the convergence of cost management practice and decision-making based on data in order to improve resource use and financial performance. In summary, the study underpinned the intricate interplay among fuel management, organizational performance and competitiveness in the transportation industry and added to the literature on competitiveness and organizational efficiency with application to a vibrant market space.

Contents

List of tables

List of acronyms

BOZ Bank of Zambia

ERB Energy regulation board

MRT Mass Rapid Transit

OECD Organisation for Economic Co-operation and Development

RTSA Road transport and safety agency

UPP Uniform Pump Price

CHAPTER ONE: INTRODUCTION AND BACKGROUND

1.1 Introduction

Introduction In this chapter the background of the study is presented. The chapter is introduced then statement of the problem. Another part of this section will discuss the aim of the study, will tell about the general objective of study, hereafter followed by the specific objectives of study. This is then succeeded by the importance of the research, the scope & limitations, and dissertation organization.

The energy regulation board (2022) suggested monthly fuel review is a very important phenomenon in the Zambian transport sector, most especially the Lusaka Long distance bus operators. The review is as a result of a combination of both internal and external factors that mean we need to review and adjust the prices of fuel regularly. Fuel is used inside these operators heavily as a primary operational expenditure thereby directly affecting their profitability and efficiency in turn. Variability in fuel prices breed an uncertainty in the financial discipline as fuel cost are a significant driver of the operational expense and affecting the profit margins, for the airlines to survive, fuel has to be a monthly issue to be monitored and measured (OECD, 2019).

According to the ERB (2022), various variables contribute to the requirement for monthly fuel evaluations among long-distance bus operators in Lusaka. First, variations in global oil prices have a direct impact on fuel costs in Zambia, prompting operators to actively watch international oil markets in order to predict price fluctuations and modify their budgets accordingly. Second, government policies and regulations regarding fuel taxes, subsidies, and import charges have a significant impact on gasoline prices, prompting adjustments to operating budgets and pricing strategies in response to policy changes.

Furthermore, fluctuations in the Zambian Kwacha's exchange rate against major international currencies, such as the US Dollar, have a direct impact on the cost of importing fuel into Zambia. As a result, currency swings influence monthly fuel assessments, as operators examine the impact on fuel prices and adjust their pricing strategy appropriately (ERB, 2022). Furthermore, changes in transportation demand and industry competitive pressures might have an impact on bus operators' fuel usage habits and pricing strategies. Thus, monthly fuel evaluations allow operators to assess market conditions and adjust their fuel management procedures accordingly.

In terms of dependent and independent variables, assessing the impact of monthly fuel reviews on Zambia's transportation sector entails identifying both the factors that influence gasoline prices (independent variables) and the outcomes or impacts of monthly fuel reviews (dependent variables). Fuel costs are influenced by independent variables such as global oil prices, government regulations, currency rate fluctuations, and transport demand and competition, as well as dependent variables such as fuel costs, operational efficiency, and bus operator financial performance. By evaluating the relationship between these variables, researchers can determine how effective monthly fuel reviews are in resolving fuel cost concerns and improving the overall performance of Zambia's transportation sector.

1.2 Background of study

Following the August 2021 elections, the administration implemented sectorial economic reforms aimed at restoring the economy. Key reforms in the energy sector included the elimination of some fuel subsidies, the placement of the INDENI refinery on care and maintenance, and, more recently, the implementation of monthly reviews for setting pump prices of fuel, the pros and cons of which have been debated, particularly when the resulting adjustment is upward. According to the OECD (2019). Fuel costs have long been acknowledged as an important element in the global economic environment.

The cost of fuel, particularly petroleum-based fuels such as gasoline and diesel, has a wide-ranging impact on the economy, affecting enterprises of all sorts. Bus operators in the transportation sector are subject to the impact of fuel price variations due to the nature of their business and operational scale.

The recent spike in oil prices has prompted a thorough reform of many developing countries' domestic petroleum pricing systems, which has become an important component of their macroeconomic policies (Gall, 2013). While some governments have used currency exchange rate modifications to offset the impact of rising oil prices, these rises have had substantial socioeconomic implications. Many governments have been unwilling to pass on growing international oil prices to consumers, fearing repercussions from measures that would damage the less affluent elements of society.

However, failure to transmit the increasing expenses could place a significant financial strain on these countries, potentially compelling governments to cut social spending. Elevated oil prices

have a negative impact on several sectors, including enterprises, consumers, and government budgets, among others (Clarke, 2018).

When looking at the larger economic backdrop, the fundamental repercussions of rising fuel prices become clear. One major influence is the critical function of transportation in affecting the pricing of commodities. Due to restrictions in alternate modes of transportation, many countries rely significantly on road transportation to move products and services.

Fuel price volatility is defined as the quick and unpredictable variations in fuel costs, particularly for petroleum-based fuels such as gasoline and diesel, in the energy market. These price fluctuations can be caused by a variety of variables, including geopolitical events, changes in supply and demand, currency exchange rates, and natural disasters. The impact of fuel price fluctuation on bus operators is a major problem, and it has been extensively researched in the literature. Several significant elements are considered in these modifications, including crude oil prices, refining expenses, distribution and transportation costs, and taxes and charges (Gillingham 2012).

According to the World Bank (2021), rising oil prices are typically expected to boost inflation and slow economic growth. In terms of inflation, oil prices have a direct impact on the prices of commodities derived from petroleum products, as well as indirect effects on costs such as transportation and production. Economists typically consider non-discretionary fuel subsidies as a poor use of public resources. Fuel pricing in Zambia is controlled by worldwide oil prices and the Kwacha's performance versus the US dollar, the currency used for international gasoline commerce (Bank of Zambia [BOZ], 2019).

Zambia, like other countries, is affected by fluctuations in gasoline prices, which have an impact on both the micro and macroeconomic elements of the economy. Fuel price adjustments are regular variations in the prices of fuel products that can either increase or decrease and are usually caused by movements in the global energy market. These modifications are made by governments or regulatory authorities to reflect current market conditions, such as changes in the cost of crude oil, refining, distribution, and taxation. Such fluctuations in fuel prices inevitably have repercussions on the prices of other commodities around the world, affecting the performance, turnover, and profitability of many enterprises.

And the Energy Regulation Board (ERB) has started evaluating gasoline prices on a monthly basis, in accordance with its monthly pricing cycle, which began in January 2022. According to ERB, evaluating fuel prices on a monthly basis will reduce the government's vulnerability to exchange rate losses in the event of a weakening local currency while also ensuring that enough income is received to sustain petroleum importation. Furthermore, finding a supplier that can provide fuel for up to three months at a fixed rate has been challenging. This means that gasoline prices will fluctuate more, potentially affecting bus owners' operations. This could impact employment, productivity, and turnover.

The Ministry of Finance and National Planning recognizes the critical role of energy in promoting economic development across a wide range of socioeconomic activities in its 2024 National Budget (Musonda et al., 2024). The Minister emphasized the rise in gasoline expenses, attributing it to both the increasing price of the commodity sourced globally and the depreciation of the exchange rate. The budget plan for 2022 predicted Zambia's GDP to grow by 2.7% in 2023, down from 4.7% in 2022, owing mostly to contractions in the mining and energy sectors. Small and medium-sized firms (SMEs) have been severely affected by rising fuel prices, with difficulty in maintaining operations, reduced profit margins, probable job losses, and slowed economic growth. The negative socioeconomic effects of high gasoline prices extend across multiple sectors, necessitating fiscal sustainability and worldwide image improvement for Zambia to attain the predicted growth rates.

The Kwacha's quick depreciation versus major currencies exacerbates the expense of living, as currency swings increase inflationary pressures. While praiseworthy, the Bank of Zambia's changes, such as boosting the required reserve ratio, are viewed as only temporary. The increase in fuel prices has significantly contributed to inflationary pressures, resulting in higher prices for necessary items and straining household budgets (BOZ, 2019). This has primarily impacted low-income households, worsening poverty and widening social inequality. Addressing these problems requires a comprehensive policy strategy focused at minimizing immediate repercussions, strengthening economic resilience, and promoting sustainable and inclusive growth to ensure citizens' wellbeing (JCTR, 2024).

The recent increase in gasoline prices has added considerable complexity to Zambia's economic landscape. This increase in fuel prices has triggered a chain reaction across other industries,

increasing current economic issues and posing a variety of challenges for the country. With the monthly evaluation of local fuel prices, domestic petroleum product prices will be greatly influenced by the performance of international oil prices and the unpredictable kwacha-dollar exchange rate. If a result, prices will rise if international oil prices rise or the Kwacha depreciates against the USD. Domestic fuel prices will fall when international oil prices fall and the Kwacha appreciates versus the US dollar. The rising cost of petroleum products has dramatically increased transportation costs, directly affecting the transportation sector and generating a ripple effect across multiple businesses. This increase in commodity and service costs has had an impact not only on local consumers, but also on Zambia's worldwide competitiveness (Musonda et al., 2024).

With international oil prices and Kwacha exchange rates against the US dollar (US$) that determine fuel prices in Zambia being volatile, the Zambian government, through the Energy Regulation Board (ERB), has implemented a system of monthly fuel pump price reviews. This was intended to reduce governments' exposure to exchange rate losses in the event of kwacha depreciation, ensure adequate revenue collection, and pass on the benefits of lower international oil prices resulting from the Kwacha's gains against the US dollar (US$) to consumers.

However, stakeholders in the transportation sector believe that this pricing structure has created significant uncertainty in terms of business planning. According to transportation stakeholders, the continued monthly fuel pump price revision is uneconomical, unsustainable, and detrimental to economic development, as well as a drain on business gains, whereas the ERB insists that consumers will easily benefit from shortening the pricing cycle from 60 to 30 days. It has been noticed that each time gasoline costs are raised, the transportation industry loses customers since not everyone can afford to pay higher transportation fees, and the implementation of new fares does not occur quickly because all stakeholders must agree. This has an immediate impact on operational costs and may result in job losses due to decreased earnings.

However, subjecting the transportation sector to such an unexpected regulation exacerbates the already-existing discrepancies. The sector cannot employ 'just in time' principles or budget for the long term. Given the instability of the Zambian Kwacha and the volatility of international oil prices, international gasoline prices are likely to climb further, with regular oscillations of higher domestic fuel pump prices to be expected. As opposed to a quarterly review, this could have an

impact on transportation business operations because there is no stability in profit predictions, no time to plan, and no fixed pricing for bus fares, all of which harm the business (ERB, 2023).

Despite the government's implementation of the pricing mechanism and its overall influence on various sectors of the economy, the transportation industry is particularly affected. This pricing method is unpopular among transportation sector players because they believe it has caused too much uncertainty for business operations planning. The stakeholders argue that the ERB's ongoing monthly revision of gasoline pump prices is unreasonable, unsustainable, and detrimental to economic development because it impedes actual national economic growth through its vague and uncertain fuel pricing methodology. Businesses react differently to changes, and this study will look into how monthly fuel modifications affect long-distance bus operators in Lusaka (JCTR, 2024).

With this in mind, it is necessary to conduct a thorough investigation of the impact of monthly fuel pump price modifications on the transportation industry and how they affect the performance of long-distance bus operators.

1.3 The Statement of Problem

In December, 2021, the Energy Regulation Board (ERB) made a pivotal decision to shorten the fuel price review cycle from 60 to 30 days, aiming to enhance the responsiveness of domestic fuel prices to changes in exchange rates and international oil prices. This frequent review cycle aims to offer consumers the benefit of quicker adjustments in fuel prices in response to market conditions. The implementation of monthly fuel price reviews in Zambia serves as a mechanism to ensure a more responsive and transparent approach to managing fuel prices within the country (ERB, 2021).

However, since 2022, the rapid depreciation of the Kwacha against major currencies, particularly the United States Dollar, has negatively impacted transporters in Zambia. As the Kwacha depreciates, the cost of imported fuel and vehicle spare parts, which are often priced in foreign currencies tends to increase with a less than corresponding adjustment in transport fees by the Ministry of Transport and Communications. This directly affects operating expenses for transporters, leading to higher fuel costs and maintenance expenses for their vehicles.

Additionally, the depreciation of the Kwacha may lead to inflationary pressures, causing prices of goods and services, including transportation fares, to rise. Transporters face challenges in adjusting

their fares to cover the increased operating costs while remaining competitive in the market since such price adjustments are subject to approval by the Government (RTSA, 2022). As a result, long-distance bust operators at intercity experience reduced profit margins or the need to pass on the increased costs to consumers, which could impact affordability and demand for their services.

Moreover, the fluctuating exchange rates introduce uncertainty and volatility into business planning and budgeting for transporters, making it challenging to forecast and manage their financial obligations effectively.

Consequently, the devaluation of the Kwacha is expected to present notable obstacles for transportation companies in Zambia, impacting their ability to generate profit and maintain operational viability. The precise impact of this swift decline in the Kwacha's value on bus operators remains unclear. Thus, this study aims to assess how the Monthly Fuel Review influences the performance of long-distance bus operators at the Intercity Bus Terminus in Lusaka.

1.4 Research Aim

The research aim of the study titled "Evaluating the Effect of Monthly Fuel Review on Performance of Long-Distance Bus Operators at Intercity Bus Terminus in Lusaka" is to investigate and assess the impact of implementing monthly fuel reviews on the operational performance of long-distance bus operators. Specifically, the study seeks to analyze how these reviews influence operational efficiency, cost management, environmental sustainability, and overall business sustainability within the context of Lusaka's intercity bus terminus.

1.5 General Objective

The general objective of the study is to evaluate the effect of monthly fuel pump price adjustments on long distance bus operators at Intercity Bus Terminus

1.5.1 Specific Objective

i. Investigate the Effects of Monthly Fuel Reviews, on the performance of Long-Distance Bus Operators.
ii. Examine the Relationship between Cost Management Practices and the performance of Long-Distance Bus Operators.

iii. Evaluate the Association between Operational Performance Metrics and performance of Long-Distance Bus Operators.

1.6 Research Questions

i. What are the Effects of Monthly Fuel Reviews on the Performance of Long-Distance Bus Operators?
ii. How do variations in cost management practices, influence the Performance of Long-Distance Bus Operators?
iii. What correlations exist between key operational performance metrics and the Performance of Long-Distance Bus Operators?

1.7 Research Hypothesis

Hypothesis one

(H_0): There is no significant relationship between variations in cost management practices and the performance of long-distance bus operators.

(H_1): Variations in cost management practices significantly influence the performance of long-distance bus operators.

Hypothesis two

(H_0): There are no significant correlations between key operational performance metrics and the performance of long-distance bus operators.

(H_1): There are significant correlations between key operational performance metrics and the performance of long-distance bus operators.

Hypothesis three

(H_0): There are no significant interactions between monthly fuel reviews implementation, and the performance of long-distance bus operators.

(H_1): Monthly fuel reviews significantly contribute to the performance of long-distance bus operators.

1.7 Scope of the Study

The study will only look at how monthly gasoline pump price modifications affect Zambia's transportation industry. It will concentrate on the transportation sector in Lusaka District, particularly long-distance bus operators at the Intercity Bus Terminus. The selection is based on the researcher's limited time and resources (both financial and human). Purposive research sample approaches will be used in the study, rather than a probability-based strategy. The term "purposeful" is used since the transportation industry is handled by a small percentage of the national population, and not everyone can supply information on the subject.

1.8 Significance of the Study

The study "Evaluating the Effect of Monthly Fuel Review on Performance of Long-Distance Bus Operators at Intercity Bus Terminus in Lusaka" has important ramifications in a variety of disciplines. It seeks to reveal insights into how monthly fuel inspections affect operational efficiency and cost management in bus companies, potentially leading to cost savings and lower ticket costs. Furthermore, proper fuel management can help to reduce environmental impact by lowering fuel use and emissions, which aligns with global sustainability objectives. Understanding the success of these assessments is critical for bus operators to improve business sustainability through better operational methods. Furthermore, the study's findings could affect transport laws and regulations, supporting rules that promote efficient fuel consumption and, as a result, improve competitiveness, service reliability, and affordability in Lusaka's transportation network. Academically, the study presents empirical information on the impact of fuel management on operational performance in bus transportation, providing practical insights for operators to improve efficiency and performance not only in Lusaka but also in similar situations around the world.

1.9 Research Approach and Methodology

The study used a mixed research design, consisting of both qualitative and quantitative analysis. This technique seeks to construct sustained arguments based on current literature as well as new qualitative and quantitative data collected from the target community (Davenport, 2019). This study will draw on both primary and secondary data sources. Primary data will be acquired directly from the target population via interviews, surveys, or observations, and secondary data will be

gathered from existing literature, reports, and records. The qualitative data gathered were examined using both content analysis and thematic analysis methodologies, depending on the nature of the study.

Mean, median, and standard deviation are descriptive statistics that summarize variables such as fuel consumption rates, revenue, and punctuality. Inferential statistics, such as hypothesis testing and regression analysis, investigate the relationships between variables to assess whether fuel reviews have a meaningful effect on performance. Comparative analysis compares differences before and after implementation, whereas correlation analysis explains links between variables such as fuel use and revenue. These methodologies enabled the researcher to better understand the impact of fuel reviews on operator performance, hence facilitating evidence-based decision-making and policy creation in the transportation industry.

1.10 Dissertation Lay Out

The dissertation layout will be as follows:

Chapter 1: Introduction

The dissertation's initial chapter emphasizes the necessity of fuel management in the transportation sector, particularly for long-distance bus operators. The problem statement emphasizes the importance of fuel expenses for bus operators and investigates the potential impact of monthly fuel reviews on their overall performance. The study's objectives are defined, with the goal of evaluating the effectiveness of monthly fuel assessments in managing costs and improving operational performance for long-distance bus operators. Research questions are developed to answer specific questions about the relationship between fuel reviews and performance measures. Furthermore, the study's significance is examined, with a focus on the potential benefits of improved fuel management for bus operators, passengers, and the overall transportation system. The study's scope and restrictions are described, including the geographical area, time frame, and constraints like data availability and participant access. Finally, an overview of the dissertation's structure provides a summary of the upcoming chapters.

Chapter 2: Literature Review

This chapter provides an overview of fuel management strategies in the transportation business, focusing on long-distance bus operations. Previous research into the impact of fuel costs on the financial performance and operational efficiency of bus operators is examined. Furthermore, the literature on the role of fuel reviews and monitoring systems in optimizing fuel usage and lowering costs is investigated. The chapter also dives into theoretical frameworks and models related to fuel management and performance evaluation in the transportation industry.

Chapter 3: Methodology

The methodology chapter describes the research methodology used in this study, which is a mixed research design that incorporates both quantitative and qualitative data gathering and analysis methodologies. It details the study population and sampling processes used to choose long-distance bus operators from the Intercity Bus Terminus in Lusaka. Furthermore, the chapter describes the data collecting instruments, such as questionnaires, interviews, and document analysis, used to collect information on fuel management methods and performance metrics. Data analysis approaches, such as statistical methodologies and qualitative data analysis software, are discussed in detail. Ethical considerations and ways to preserve participant confidentiality and anonymity are also discussed.

Chapter 4: Findings and Analysis

This chapter presents the outcomes from the data collection, which provide insights into current fuel management strategies among long-distance bus operators. The link between monthly fuel evaluations and performance measures like fuel efficiency, operational expenses, and service quality is investigated. A comparative analysis using existing literature is performed to detect patterns, trends, and correlations. The findings' ramifications for bus operators, legislators, and other transportation stakeholders are examined.

Chapter 5: Conclusion and Recommendations

The final chapter summarizes the study's important findings and their implications for fuel management and the performance of long-distance bus operators. Recommendations for improving fuel management techniques, such as implementing regular fuel evaluations and

monitoring systems, are made. Suggestions for future study directions include longitudinal studies to measure the long-term influence of fuel reviews on bus operator performance. Concluding remarks underline the need of proper fuel management in improving the sustainability and efficiency of long-distance bus operations at Lusaka's Intercity Bus Terminus.

1.11 Chapter Summary

This section discussed the study's background, problem statement, general research aims, study objectives, research questions, study significance, methodology, and organizational structure.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter of the study, seeks to investigate the theoretical foundations and empirical findings surrounding topics such as fuel management practices, operational performance metrics in the transportation sector, factors influencing bus operators' operational efficiency, and the effects of fuel reviews on business sustainability and environmental concerns. By synthesizing and analyzing previous studies, this chapter establishes a theoretical framework that informs the methodology and objectives of the current research, offering a critical perspective on the state of knowledge in the field and laying the groundwork for further investigation into the specific context of Lusaka's intercity bus operators..

2.2 Empirical review

This literature review is in three parts: the global, the regional and the local perspective**.**

2.2.1 Global perspective

Chao et al. (2015) investigated how gas costs influence public transportation utilization in Taiwan. They discovered that as gasoline prices rise, more individuals prefer to use buses and the Mass Rapid Transit (MRT) system. They also discovered that MRT ridership is more affected by changes in gasoline prices and income than buses and trains. This means that when petrol prices rise and the economy expands, it is critical to prioritize developing the MRT system. They also discovered that the influence of gasoline costs on bus and MRT utilization varies depending on whether gas prices are rising or falling. When petrol costs rise, more people use buses and the MRT; when prices fall, the decline in ridership is less dramatic. This means that transit agencies should change their strategies more quickly as gas prices rise. Overall, it is critical for transit planners to account gasoline prices and be adaptable to variations in usage. Strategies such as providing better transfer information and revising transit schedules can help passengers use public transportation more efficiently.

Blanchard (2009) conducted research to determine how rising gasoline prices affect public transportation ridership in the United States. Understanding this link is beneficial to two major groups: public transportation agencies and policymakers. Gasoline prices affect both the cost and

demand for transit services. When gasoline costs rise, the cost of providing bus services rises, but so does demand. However, Winston and Maheshri (2006) discovered that tickets often only cover 40% of transit operating expenses, implying that boosting service availability during periods of high gasoline prices may not be financially viable, even with fare hikes. Having a detailed grasp of how changes in fuel prices affect demand, particularly for different transport modes and the price sensitivity of new customers, can assist transit authorities in adjusting service levels and pricing appropriately.

According to Blachard (2009), policymakers can benefit from studying the impact of gasoline costs on transport mode choice in two ways. To begin, there are several social costs connected with automobile use, including greenhouse gas emissions, congestion, reliance on foreign energy, and traffic accidents. Understanding why people reduce their automobile use can help shape future policies targeted at encouraging similar behavior. Second, when planning transit infrastructure investments, authorities can make better decisions if they understand how demand for each mode of transportation in a city is likely to alter in response to fluctuations in gasoline prices. This information can be used to evaluate the level of support for a transit system at various gasoline price levels in a given city.

Lim and Tan (2020) investigated the effect of monthly fuel assessments on the performance of long-distance bus operators in Malaysia. Based on Transaction Cost Economics (TCE) theory, the study investigated the complex interaction between transaction costs and organizational decision-making processes, with the goal of shedding light on how these factors influence performance outcomes in the bus transportation industry.

The researchers used a mixed-methods approach, combining polls with bus operators with a thorough financial performance study of companies operating in Malaysia's long-distance bus market. They were able to gain insights from both qualitative and quantitative data sources using this multimodal method, resulting in a thorough comprehension of the issue.

The study's findings revealed that monthly fuel assessments had a substantial impact on the performance of Malaysian long-distance buses. These assessments helped to improve operational efficiency and competitiveness in the sector by methodically lowering transaction costs connected with fuel acquisition, maintenance, and route planning. Furthermore, the study emphasized the importance of fostering transparency and accountability in fuel management practices, citing them

as critical factors in maintaining long-term performance improvements and ensuring the sector's continued growth and viability in the Malaysian market landscape.

Sharma and Patel (2020) did a thorough evaluation to determine the effect of monthly fuel reviews on the operational performance of long-distance bus operators in India. Based on the Efficiency Theory, the study sought to understand how efficient fuel management methods contribute to organizational performance in the Indian bus transportation sector.

Using a quantitative research approach, the researchers conducted surveys with long-distance bus operators from various regions of India. The surveys collected data on the frequency and nature of monthly fuel evaluations, as well as key performance metrics such as gasoline cost per kilometer, revenue production, and customer satisfaction levels. The study used statistical approaches, including regression analysis, to investigate the association between monthly fuel reviews and performance outcomes.

The study found a substantial beneficial relationship between the implementation of monthly fuel reviews and the performance of long-distance bus operators in India. Bus operators who completed regular fuel reviews had lower fuel expenditures per kilometer, more revenue production, and higher customer satisfaction levels than those who did not conduct such reviews. Furthermore, the study emphasized the significance of implementing open and accountable fuel management systems in order to fully reap the benefits of monthly fuel reviews and improve overall performance among Indian bus operators. The study's findings provided significant information for industry stakeholders looking to increase operational efficiency and drive long-term performance in the Indian bus transportation sector.

2.2.2 Regional perspective

Muhire and Nakirijja (2022) undertook a study to investigate the causes and effects of high commodity prices in Uganda, with the goal of identifying potential solutions to this problem. The study used a cross-sectional research methodology, with a sample size of 248 respondents drawn from a population of 700 using a simple random sampling method. Ultimately, 187 respondents took part, obtaining a response rate of 75.4%. Data was gathered using a standardized questionnaire with a five-point Likert scale and analyzed using SPSS v23.

The research identified a number of explanations for Uganda's high commodities prices. These included fluctuations in government subsidies and labor costs, the global impact of COVID-19, geopolitical risks, commodity market uncertainty caused by conflicts such as the Russian-Ukraine

war, increased demand from local and neighboring consumers, supply variability, globalization, and monetary inflation. Fuel prices were the most notable commodity to have an impact on the economy, as evidenced by the following: reduced demand for transportation and supply disruptions; changes in the percentage of commodities in the consumer price basket; worsening fiscal accounts; and an impact on current account balances through improved Terms of Trade Muhire and Nakirijja (2022).

These findings led to recommendations for addressing Uganda's high commodity prices. These included basing government subsidies and tariffs on accurate estimates of their impact on price volatility and market profitability. In addition, Muhire and Nakirijja (2022) proposed lowering taxes to increase market stability, improving supply chains for vital commodities, and considering government or third-party interventions to successfully manage commodity prices in Uganda.

Mensah and Osei (2020) did a thorough investigation of the impact of monthly fuel reviews on the operational performance of long-distance bus operators in Ghana. The study, which was based on the Resource-Based View (RBV) paradigm, sought to understand how internal resources and capabilities, specifically fuel management techniques, affect the overall performance of bus operators in the sector.

The researchers used a mixed-methods approach, combining qualitative interviews with quantitative analyses of financial performance data from various long-distance bus firms in Ghana. The study obtained useful insights into bus operators' thoughts and experiences with monthly fuel evaluations through semi-structured interviews. In addition, financial data analysis allowed the researchers to examine performance measures such as cost efficiency, revenue creation, and profitability.

The study's findings highlighted the critical significance that monthly fuel reviews play in improving the operation of Ghana's long-distance bus operators. These studies were found to considerably enhance fuel cost management, route optimization, and resource allocation, consequently increasing operational efficiency and profitability in the industry. Furthermore, the study emphasized the significance of implementing open and accountable fuel management methods to fully reap the benefits of monthly fuel reviews, ultimately promoting long-term performance improvements among Ghanaian bus operators. The study's findings gave significant assistance to industry stakeholders looking to improve operational performance and create long-term success in Ghana's bus transportation sector.

Green-Cape (2020) conducted a study on how electric passenger bus operations in Africa could reduce transportation costs for both passengers and bus operators while also cleaning up cities and eliminating the need for quarterly or monthly fuel price reviews. The study was conducted in Cairo, Nairobi, and Cape Town. The move to electric buses in Africa has the potential to dramatically cut operating costs while also addressing environmental and public health concerns (Green Cape, 2020).

Electric buses have lower running expenses than diesel buses since electricity costs less than diesel fuel. According to Green-Cape's (2020) report, the cost of electricity for charging electric buses is significantly less than the cost of diesel fuel. This can result in huge cost savings for African public transport providers. The paper states that electric buses have fewer moving parts than diesel buses, resulting in lower maintenance expenses. With fewer components prone to wear and tear, electric buses require less frequent service and repairs, resulting in cost savings for operators.

Montmasson-Clair et al. (2020) found that electric buses require less maintenance than diesel buses. According to the survey, electric buses are less subject to fuel price variations than diesel buses. Because the cost of electricity is generally more consistent than that of diesel, operators can better estimate and manage their operational costs in the long run. This steadiness can help public transportation agencies plan and budget their finances more effectively.

The paper also says that several governments provide incentives and subsidies to encourage the usage of electric buses. Tax reductions, grants for acquiring electric vehicles, and subsidies for charging infrastructure installation are some of the incentives available. Taking advantage of such incentives allows public transportation operators to significantly lower the initial investment expenses associated with switching to electric buses.

Finally, the paper indicates that switching to electric buses can improve air quality and public health outcomes by lowering emissions from public transportation vehicles, especially in highly populated urban regions. This could lead to savings on healthcare costs linked with air pollution-related ailments.

2.2.3 Local perspective

According to Musonda et al. (2024), Zambia, which is endowed with natural resources and agricultural potential, has had economic ups and downs over the years. Historically based on

copper mining, the economy was vulnerable to global commodity price changes. However, the recent increase in petroleum prices has added fresh difficulties to Zambia's economic landscape. This increase in fuel prices has set off a chain reaction across multiple industries, exacerbating current economic problems and posing a variety of issues for the country. With the monthly evaluation of local fuel prices, domestic petroleum product prices will be greatly influenced by the performance of international oil prices and the unpredictable kwacha-dollar exchange rate. As a result, prices will rise in response to worldwide oil price increases or the Kwacha's devaluation versus the US dollar. Domestic fuel prices will fall when international oil prices fall or the Kwacha appreciates against the US dollar. The rising cost of petroleum products has greatly increased transportation expenses. Zambia relies significantly on road transport for both local and international trade. This increase in gasoline costs has had a direct impact on the transportation sector, triggering a chain reaction across multiple industries. The consequent increase in the price of products and services has had an impact not only on local customers, but also on Zambia's global competitiveness.

According to the Ministry of Finance (2021), after years of significant government borrowing that increased its debt burden to more than 120% of GDP, Zambia found itself in a terrible financial predicament, owing $16 billion in external debt alone. In November 2020, Zambia became the first sovereign African country to default on its debt servicing obligations because to the Covid-19 pandemic. The debt consists of $3 billion in international bonds, $2.1 billion to multilateral lending institutions such as the IMF, and $3 billion to China and Chinese businesses. In order to confront the financial problem and attain sustainable debt levels, the New Dawn Government removed subsidies, reallocating limited public resources to other priorities. The IMF's extended credit facility package, which is critical for Zambia's external debt restructuring, calls for a reduction in the budget deficit as well as the elimination of wasteful subsidies such as those for power, gasoline, and agriculture. The withdrawal of subsidies led in price increases, particularly at the gas pump. Many economists believe that this measure is vital to minimize inefficient use of public resources, but it has compounded Zambia's economic woes, which were already aggravated by the COVID-19 pandemic.

Global issues such as the conflict between Russia and Ukraine have had a significant impact on the rise in international oil prices. However, this is exacerbated by the Zambian Kwacha's

devaluation, which is ascribed to a variety of economic causes such as Zambia's unsustainable high debt-to-GDP ratio, decreasing copper production, and the country's failure to properly generate income. In light of these circumstances, fuel prices in Zambia are predicted to climb further. Regular swings of higher domestic fuel pump prices may be expected. The rise in fuel prices has created macroeconomic issues for Zambia, influencing fiscal and monetary policies. Increased import bills for petroleum items put a pressure on the country's foreign exchange reserves, affecting currency stability. The government faces the problem of reconciling the requirement for fiscal discipline with steps to mitigate the negative consequences on businesses and individuals.

Energy is a major factor in determining the cost of living in Zambia, with fuel prices directly influencing transportation costs, particularly in the food production and distribution sectors. When fuel prices rise, transportation costs rise, affecting the entire food supply chain. Farmers rely on transportation to carry agricultural inputs such as seeds, fertilizer, and equipment to their farms. Additionally, transporting harvested products to markets or processing facilities becomes more expensive. These increased costs eventually result in higher retail pricing for food items. Fuel price fluctuations have an impact on the availability of food in many regions of Zambia, notably rural areas where agricultural activities are prevalent. If transportation costs grow dramatically, rural areas may have difficulty getting basic supplies, resulting in localized shortages and pricing disparities. Furthermore, fluctuations in gasoline prices impact the cost of imported food products, resulting in higher prices for consumers. This issue disproportionately impacts low-income households, which devote a considerable amount of their income to food bills. As a result, increased transportation expenses owing to gasoline price increases can exacerbate food poverty and malnutrition among vulnerable groups, such as children and the elderly.

2.3 The Regulator of Gas and Petroleum Prices in Zambia

In Zambia, the Energy Regulation Board (the "Board") regulates the gas and petroleum industries. Section 3 of the Energy Regulation Act, Chapter 436 of Zambia's Laws, establishes the Board. Section 6 of the Act specifies the Board's mandate as follows (ERB, 2024):

a) Evaluate the efficiency and performance of undertakings based on their intended purposes.
b) Receive and examine consumer complaints about price adjustments or services offered by any undertaking. Regulate such adjustments and services by attaching suitable conditions to licenses.

c) Receive and investigate complaints about the location and construction of common carriers, energy or fuel facilities, installations, and works by undertakings. Regulate such locations and construction by attaching appropriate conditions to licenses.

d) Monitor the levels and structures of competition within the energy sector, in collaboration with the Zambia Competition Commission established by the Competition and Fair-Trading Act, with the goal of promoting competition and accessibility to any company or individual who meets the basic requirements for operating as a business in Zambia;

e) Collaborate with the Zambia Standards Bureau to develop standards for energy and fuel supply quality, safety, and reliability.

f) in collaboration with other government agencies, formulate measures to minimize the environmental impact of energy production and supply, as well as fuel production, transportation, storage, and use, and enforce such measures by attaching appropriate conditions to licenses held by undertakings; and g) Make suggestions to the Minister about regulations under this Act.

The Board may also execute any other authorities and functions mandated by other legislation. The Board also has authority under the Petroleum Act, Chapter 435 of Zambia's Laws. This Act regulates the importing, transportation, and storage of petroleum and other inflammable oils and liquids, as well as other related topics. Section 3 empowers the Minister responsible for Energy to establish regulations for the following purposes:

a. Limiting petroleum imports and exports to specific ports, quantity, and circumstances as prescribed.
b. Regulating petroleum transportation via rail, road, or inland navigation.
c. Regulating petroleum transportation via rail, road, or inland navigation.
d. Regulating and licensing petroleum storage facilities.
e. Establishing the rights and duties of officers appointed under this Act.
f. Allowing for searches and inspections of any vessel, vehicle, structure, or location suspected of storing or transporting petroleum.
g. Specifying fees for licenses, permits, examinations, and other Act-related activities.
h. Generally, to carry out the Act's purposes.

The Board enforces the regulations outlined in the Petroleum Act. In summary, the Board is responsible for regulating fuel prices in Zambia in accordance with the terms of the two Acts

mentioned above. Historically, the Board has regulated pump prices using two models: the Cost-Plus Model and the Uniform Pricing Model (ERB, 2024). The Board imposed the Cost-Plus Model for setting pump prices in 1998, but it was briefly abandoned in 2004 in favor of the Import Parity Pricing (IPP) methodology, which was primarily adopted to improve operational efficiencies at the Indeni Refinery by benchmarking against other international refineries. The Import Parity Pricing approach was in operation until 2008, when it was replaced with the Cost-plus Model in response to a public outcry over the frequency of monthly price adjustments under IPP. Since 2008, pump prices have been set using the Cost-plus model. The Uniform Pump Price (UPP) System is another gasoline price regulating tool implemented by the Board. This was introduced in September 2010, as per a government policy order. The UPP stipulates that fuel prices be consistent throughout all retail locations in the country.

2.4 Research gap

The available literature sheds light on how monthly fuel evaluations affect the operation of long-distance bus operators in a variety of regions, including Malaysia, India, and Ghana. However, there is a significant study void in the specific context of intercity bus terminal operations in Lusaka, Zambia. While studies in other countries have investigated the implications of fuel management strategies on bus operator performance, there has been little investigation into the unique problems and dynamics encountered by bus operators working at intercity bus terminuses in Lusaka.

Intercity bus terminals in Lusaka are essential hubs for long-distance travel, allowing the flow of passengers and cargo throughout Zambia and adjacent countries. These terminuses are distinguished by large traffic numbers, diversified client populations, and complicated logistical issues. Despite their significance, there has been little research into the influence of monthly fuel assessments on bus operators' performance in this setting.

Understanding the impact of monthly fuel inspections on intercity bus operators in Lusaka is critical for a variety of reasons. For starters, it can shed light on how swings in fuel prices effect operational costs, route design, and profitability for bus operators in this climate. Second, it can offer light on the measures used by bus operators to reduce the impact of fuel price volatility and improve their performance in a competitive market environment. Finally, it can inform

policymakers and stakeholders on the possible impacts of fuel pricing policies on the sustainability and growth of the intercity bus transportation sector in Lusaka.

Future studies that address this research gap can contribute to a better understanding of the factors influencing the performance of intercity bus operators in Lusaka, as well as actionable recommendations for improving operational efficiency and sustainability in the face of fuel price fluctuations.

2.5 Theoretical framework

Several relevant theories can provide insight into the dynamics and probable outcomes of the study while investigating the impact of monthly fuel evaluations on the performance of long-distance bus operators at the Lusaka intercity bus terminus.

2.5.1 Agency Theory

Agency theory examines the interaction between principals (owners or decision-makers) and agents (individuals or entities who act on behalf of principals) in organizations. According to Eisenhardt (1989), agency theory helps explain decision-making delegation and control mechanisms employed to align principals' and agents' interests. Agency theory is pertinent to the study on analyzing the influence of a monthly fuel review on the performance of long-distance bus operators at Lusaka's Intercity Bus Terminus because it covers issues of control, monitoring, and performance incentives.

The study can use agency theory to investigate how bus operators, as agents, would react to the monthly fuel check conducted by bus company owners or managers, who serve as principals. According to the theory, aligning principals' and agents' interests through control mechanisms, such as fuel efficiency performance assessments, can influence agent behavior and, ultimately, organizational performance (Eisenhardt, 1985).

Applying agency theory to the study can help us understand how the monthly fuel review works as a control mechanism to encourage bus operators to increase fuel efficiency, cut costs, and improve overall performance at the Intercity Bus Terminus. The study can provide light on the

efficiency of performance management approaches in the transportation sector by evaluating agency relationship dynamics within the context of bus operators.

2.5.2 Resource-Based View (RBV)

The resource-based view (RBV) hypothesis highlights the strategic management perspective that an organization's resources and skills provide a source of long-term competitive advantage (Barney, 1991). RBV contends that businesses can achieve superior performance by using precious, uncommon, inimitable, and non-substitutable resources and competencies. In the context of the study, which evaluates the influence of monthly fuel reviews on the performance of long-distance bus operators, RBV provides a useful lens for analyzing the role of resources in improving operational efficiency and competitiveness.

By incorporating RBV into the study, researchers can assess how the monthly fuel review process helps to develop and leverage valuable resources such as fuel-efficient vehicles, skilled drivers, and effective fuel management practices among bus operator companies at the Intercity Bus Terminus in Lusaka. RBV identifies how these resources and capabilities enable bus operators to gain a market advantage by enhancing operational performance and customer satisfaction.

RBV provides a framework for analyzing how organizational resources, including as human capital, technology, and operational processes, are aligned with bus operators' strategic goals, as well as how the monthly fuel review influences resource management techniques to improve performance. The study's exploration of the link between resource utilization, operational efficiency, and performance improvement can provide insights into the strategic implications of resource management in the intercity bus transportation industry.

2.5.3 Contingency Theory

According to contingency theory, organizational efficiency depends on the alignment of internal organizational traits with external environmental influences (Donaldson, 2001). According to contingency theory, there is no one-size-fits-all approach to organizational design or management practices, because effective solutions are dependent on the specific situation in which the organization functions. In the context of the study on evaluating the effect of monthly fuel reviews

on the performance of long-distance bus operators at Lusaka's Intercity Bus Terminus, contingency theory provides a framework for investigating how organizational practices are tailored to the bus transportation industry's unique environmental conditions and operational requirements.

Researchers might use contingency theory to analyze how the monthly fuel evaluation procedure is adjusted to the specific needs and challenges of Lusaka's long-distance bus operators. The theory contributes to an understanding of how external factors such as fuel price fluctuations, regulatory requirements, competitive market dynamics, and consumer preferences influence the design and implementation of fuel management techniques inside bus operators.

Contingency theory enables researchers to investigate how bus operators adapt their operating strategies and performance monitoring systems to changing external situations and internal capabilities. The study's analysis of the fit between organizational practices and environmental contingencies can shed light on how bus operators react to market uncertainties, regulatory demands, and technology improvements via the monthly fuel review process. Contingency theory provides a nuanced perspective on how organizational flexibility and environmental demands interact to shape performance results in the intercity bus transportation sector.

2.6 Conceptual framework

For a study evaluating the effect of monthly fuel reviews on the performance of long-distance bus operators at intercity bus terminus in Lusaka, Zambia, several variables need to be considered. These variables can be categorized into dependent and independent variables.

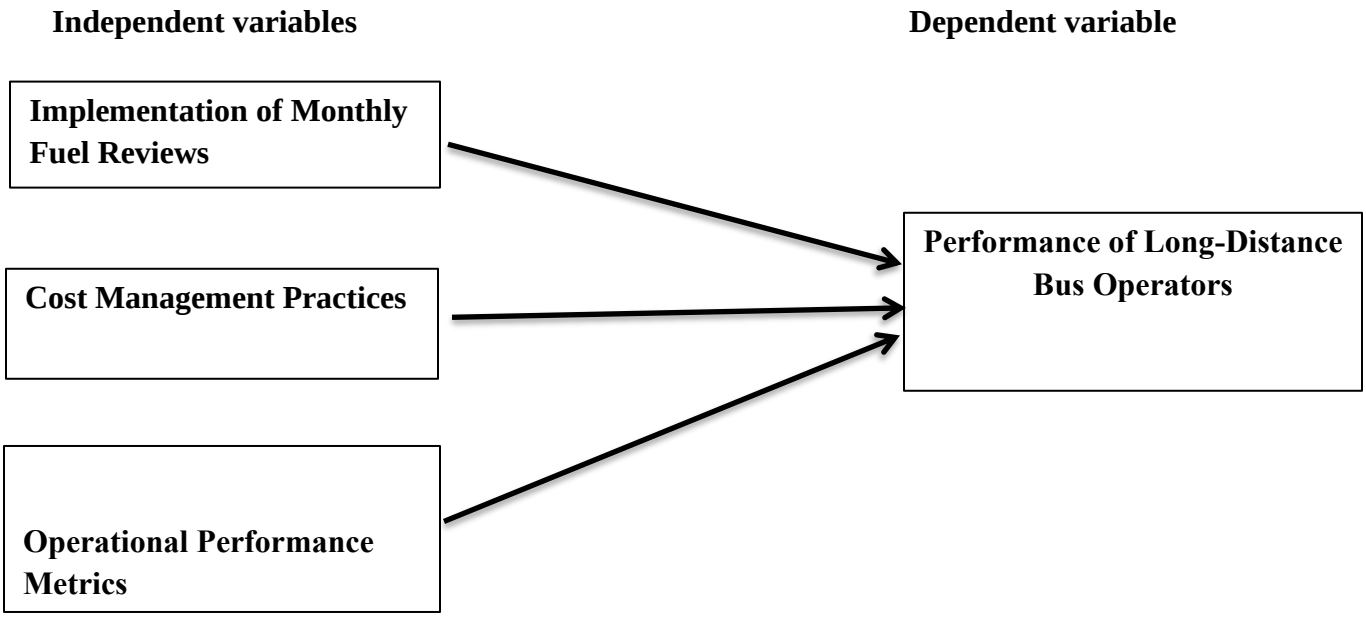


Figure 1: conceptual model

Adopted by Author (2024).

2.6.1 Explanation of variables

Independent Variables:

1. Implementation of Monthly Fuel Reviews: This variable indicates the frequency and extent with which bus operators do monthly fuel reviews as part of their performance evaluation procedure. It can have an impact on bus companies' operational methods and fuel management decisions.

2. Cost Management Practices: This variable refers to the tactics and techniques used by bus operators to control and optimize operational costs, particularly fuel prices. It has the potential to have an impact on bus operators' financial performance and efficiency at the Intercity Bus Terminal.

3. Operational Performance Metrics: This variable measures the key performance indicators (KPIs) that are used to assess long-distance bus operators' overall operational performance and service quality. It shows the bus companies' levels of efficiency, reliability, and customer satisfaction.

Dependent Variable:

1 Performance of Long-Distance Bus Operators

This statistic shows the fuel consumption efficiency attained by long-distance bus operators during the monthly fuel review process. It shows the amount of gasoline burned per distance traveled, demonstrating the operational efficiency and cost-saving potential of bus operators at Lusaka's Intercity Bus Terminus.

2.7 Chapter summary

This chapter provided a detailed literature assessment, beginning with an examination of empirical studies and identifying gaps in the existing body of knowledge. Following that, a thorough theoretical examination was conducted to create a sound framework for the research. The integration of empirical and theoretical discoveries prompted the development of a conceptual framework that clarified the complex interactions between independent and dependent variables. The empirical review delves into previous studies, highlighting major findings, techniques, and places where gaps in the literature remain. By evaluating existing studies, the chapter provided background for the current study and identified holes that the research sought to fill. Moving on to theory, the review looked at the important theoretical frameworks that served as the foundation for the study. This entailed a critical review of known ideas in the field, offering a theoretical lens through which the research issues and objectives could be thoroughly addressed.

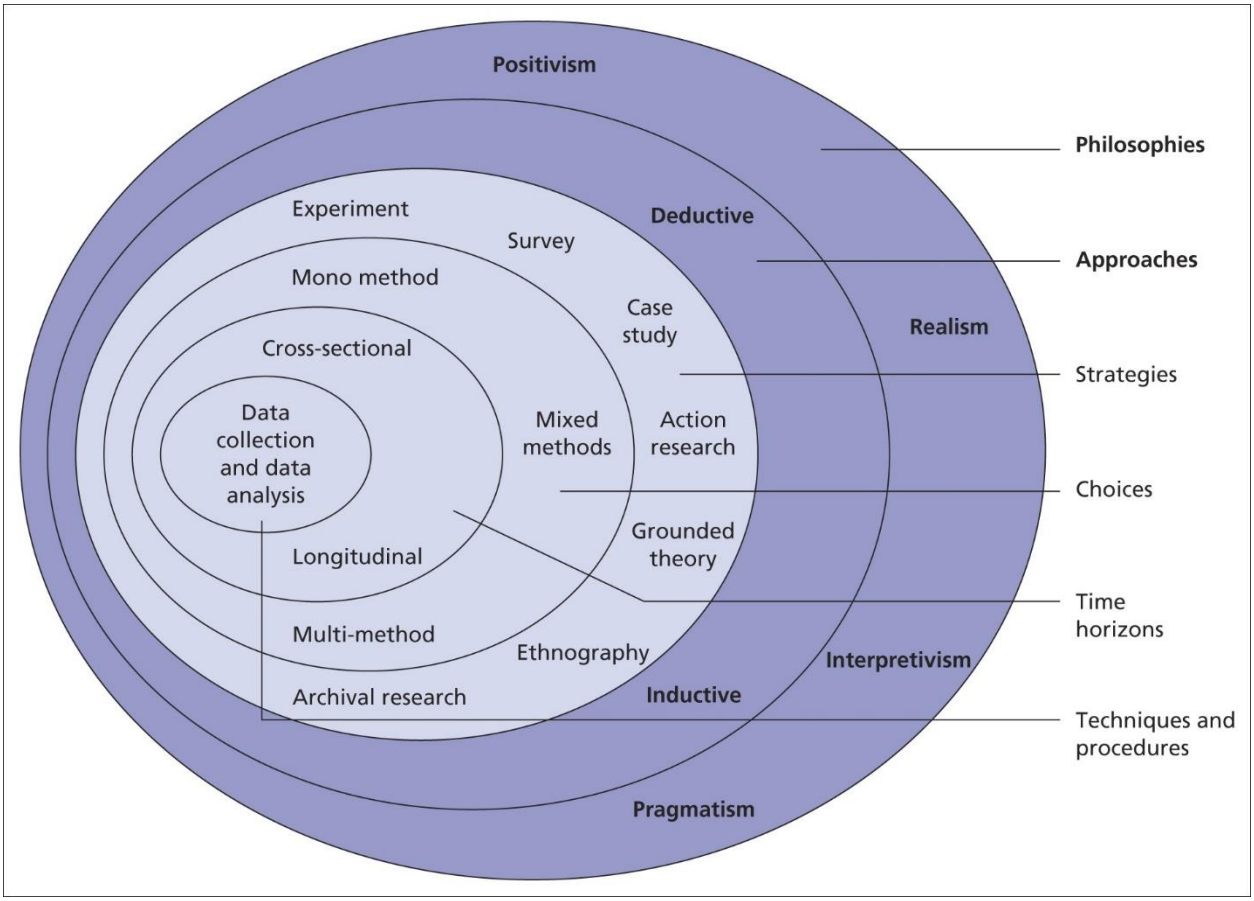
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methodology, including the study design and data collection methods for both secondary and primary research. The chapter also describes the study population, sampling technique, and sample size. It also discusses the research tools utilized and the pre-testing of the interviewer guide. The validation of data is also discussed.

3.1.1 The research onion

Saunders et al. (2018) suggested a research onion model that guided the methodology used in this study. This study took a hybrid methodological approach, collecting data using a questionnaire and an interview guide. The study used both deductive and inductive research methods, with deductive reasoning used to establish hypotheses and inductive reasoning to develop theories based on observed data patterns. To ensure a thorough examination, the study combined post positivism and constructivism research philosophies. Using these philosophical viewpoints, the study sought to provide a comprehensive understanding of the impact of monthly fuel evaluations on the performance of long-distance bus operators at the Intercity Bus Terminus in Lusaka.



Source: Saunders, Lewis, & Thornhill (2018).

3.2 Research philosophy

The influence of monthly fuel evaluations on the performance of long-distance bus operators at the Intercity Bus Terminus in Lusaka was investigated using a positivist research philosophy and a deductive approach. Positivism, as advocated by scholars such as Comte and Durkheim, affirms the importance of empirical evidence and scientific procedures in the quest of knowledge. This philosophical viewpoint holds that objective truths about the universe can be discovered through systematic observation, measurement, and analysis of empirical evidence (Guba and Lincoln, 1994). Using a positivist epistemology, the study sought to find causal correlations between monthly fuel reviews and bus operator performance, with the idea that such relationships exist regardless of subjective interpretations. Furthermore, a deductive technique was used, in which hypotheses were developed from existing theories and tested against empirical evidence (Popper, 1935). This deductive reasoning helped to generate defined research objectives and hypotheses, which guided the methodical gathering and analysis of data to support or disprove the claimed

correlations between monthly fuel assessments and bus operator performance (Trochim, 2006). Overall, the positivist epistemology and deductive technique provided a rigorous framework for producing credible and generalizable results about the impact of monthly fuel reviews on the performance of long-distance bus companies.

3.3 Research design

A mixed research study uses both quantitative and qualitative research methodologies to provide a thorough grasp of a research issue. A mixed research strategy would be useful in determining the impact of monthly fuel reviews on the performance of long-distance bus operators at an intercity bus terminus in Lusaka.

The quantitative research method was utilized to collect numerical data on several bus operator performance measures, including fuel consumption rates, revenue generated, on-time departure records, and customer satisfaction scores. This information was gathered through surveys, observations, and analysis of existing records. Statistical analysis approaches, such as regression analysis or hypothesis testing, were used to determine the link between the adoption of monthly fuel reviews and bus operators' performance indicators (Saunders et al., 2018).

On the other hand, a qualitative study approach was used to learn about the perspectives, attitudes, and experiences of bus operators, managers, and passengers regarding the monthly fuel review system. This entailed conducting interviews and open-ended surveys to investigate the problems, benefits, and overall impact of the fuel assessment procedure on the daily operations and performance of bus drivers. To uncover recurring themes and patterns in the responses, qualitative data analysis techniques such as thematic and content analysis were applied (Saunders et al. 2018).

A mixed research study, which incorporates both quantitative and qualitative data, provides a more comprehensive knowledge of the complex relationship between monthly fuel evaluations and long-distance bus operators' performance. This approach allows researchers to not only quantify the effects of the intervention, but also uncover the underlying causes and mechanisms that drive

these effects, ultimately providing valuable insights for policymakers, bus operators, and other transportation industry stakeholders (Creswell, 2013).

3.4 Study location

The study was conducted in Lusaka's Intercity Bus Terminus, where individuals in managerial positions were asked for participation. They were invited to offer their thoughts on the effect of monthly fuel adjustments on the business performance of long-distance bus operators at the Intercity Bus Terminus. This location was chosen on purpose because it has a high concentration of managerial people who are knowledgeable and skilled in topics related to the research topic.

3.5 Time horizon

Timans et al. (2019) define the time horizon as the timeframe within which the research is conducted, distinguishing between cross-sectional studies, which are short-term and involve data collection at a single point in time, and longitudinal studies, which span an extended period and involve data collection at multiple intervals for comparison. In accordance with this description, the current study is cross-sectional. The specified time range is four months, starting with the proposal's adoption in March 2024 and ending in June 2024.

3.6 Study population

A population, according to Mugenda and Mugenda (2003), is a collection of humans, events, or things that share a distinguishing attribute. The target demographic for this study was four hundred bus operators and their employees who worked at Lusaka's Intercity Bus Terminal. This information was given by the Intercity Terminus Manager.

3.7 Study sample

Capelli (2018) defines test size as the total number of items or units used to assess the characteristics of a population. Given the sensitivity of the topic matter, only bus operators who exhibited willingness and preparedness to participate were approached about participating in the study (Crewswell, 2017).

3.7.1 Quantitative sample size

A sample size of 100 respondents was drawn at random from a population of 100 bus crews at the Intercity Bus Terminus for the quantitative component of the study.

The sample formula will be used to calculate the sample size $n = \frac{N}{(1+Ne^2)}$ built in 1967 by Yamane and modified (Sekaran and Bougie, 2013).

Where

n= 100/ (1+N (e) ^{2}

= 100/1+100(0.005)

=100/1+100(0.0025)

=100/1+0.25

=100/1.25

=80

The sample size for the study was 80.

3.7.2 Qualitative sample size

The qualitative sample size was 10**.** This sample size was determined using theoretical saturation. Theoretical saturation is a term often used in qualitative research to describe the moment at which data collection is considered full and more data gathering is unlikely to generate new information or insight. It is the point at which the researcher has accumulated sufficient data to completely comprehend and explain the phenomenon being studied (Guest et al., 2006).

Bus owners executives were carefully picked (Creswell, 2017). This methodology enables a thorough examination and understanding of the research issue by combining qualitative and quantitative viewpoints, each with its own sample size and selection procedure.

3.8 Sampling techniques

Sarantakos (2015) contends that due to practical constraints, it is frequently more possible to perform investigations using a small sample drawn from a broader population. Non-probability sampling was used in this study to select respondents for in-person interviews at the Intercity Bus Terminus. Given the lack of a sampling frame, a purposive sampling strategy was used to pick

individuals that the researcher thought could provide useful insights for this study, as underlined by Robson (2012).

3.9 Method for Collecting Data

Yin (2014) lists six major sources of evidence for data collection: documentation archive records, interviews, direct observation, participant observation, and physical artifacts. Data can be classified into two types: primary data and secondary data. In this mixed method study, primary data was gathered utilizing an interviewer and closed ended questionnaires, as recommended by Sarantakos (2015). In contrast, secondary data included textbooks, journals, research papers, articles, and firm files and reports. These secondary sources came from the Ministry of transport and the Long Distance Bus Operators Association, and included documents, websites, and other historical data relevant to the research issue.

3.9.1 Personal Interviews

Conducting personal interviews was more appropriate for this study area, allowing the researcher to engage face-to-face with the respondents. Sarantakos (2015) outlines several approaches for conducting personal interviews. In this study, an interviewer guide was used to collect qualitative data from respondents. Sarantakos (2015) defines unstructured interviews as those that do not follow a predetermined timetable. These unstructured interviews were conducted with management of the bus operating companies.

3.9.2 Questionnaire Administration

Questionnaire delivery and pretesting were critical procedures in ensuring the effectiveness and trustworthiness of the collected data. Pretesting is the process of piloting a questionnaire with a small number of respondents who are similar to the target population. The questionnaire was pretested with ten respondents. This enabled the researcher to discover any potential questionnaire errors, such as vague phrasing, unclear instructions, or missing response alternatives.

During pretesting, researchers collected comments from participants on their comprehension of the questions, the time taken to complete the survey, and any challenges encountered. This input

allowed researchers to revise and improve the questionnaire before delivering it to a wider sample, so increasing the validity and accuracy of the data collected.

3.10 Reliability & Validity

This section discusses validity and reliability to enlighten readers about the trustworthiness of our results.

3.10.1 Validity

Validity describes how well the results correspond to reality. The validity consists of two parts: internal and external. Internal validity is concerned with the study itself and the direct relationship between the theoretical framework and empirical studies. That is, the interviews and questionnaire were administered to the specified sample of respondents.

3.10.2 Reliability

Reliability refers to future investigations that replicate the precise processes established by past researchers, ensuring that the same case study yields similar findings and conclusions (Bell et al., 2022). To improve reliability and reduce the potential negative effects of misconceptions during oral interactions, the researcher verified that respondents documented their thoughts using the provided questionnaire.

3.10.3 Method of Data Analysis

This study's data analysis included both qualitative and quantitative components. The nature of the data dictated how the data was organized, presented, and analyzed. According to Bryman and Cramer (1999), the purpose of analysis is to meet research objectives and provide answers to research questions. The data were analyzed with descriptive and inferential statistics in Statistical Package for Social Scientists (SPSS) version 23 and Microsoft Excel. SPSS is a modern data analysis tool that is both reliable and inexpensive. According to Onyango (2001) and Mugenda (2008), SPSS is notable for its capacity to process massive amounts of data using a wide range of statistical algorithms designed specifically for social scientists. Data was subjected to rigorous quantitative analysis to identify factors influencing women's engagement in political leadership.

A descriptive analysis of qualitative data was offered to explain the variables studied. Because qualitative data is made up of words rather than numbers, qualitative data analysis methods allow for the identification, examination, comparison and contrast, and interpretation of meaningful patterns or themes. Thematic and content analysis were applied. Direct quotations were used in the text to explain specific topics of interest. This form of analysis is very inductive, which means that themes emerge from the data rather than being imposed by the researcher.

3.11 Ethical considerations

Throughout the study, ethical concerns about consent, honesty, secrecy, and integrity were raised. It set standards for coexistence, objectivity, and tact. This helped the study limit its focus and keep participants interested.

Second, transparency in research procedures and reporting is required to foster confidence among participants and ensure the legitimacy of the findings (Bell et al, 2018). Providing accurate and unbiased information, without manipulation or selective reporting, helps to strengthen the study's ethical foundation.

Furthermore, all persons involved must provide informed consent, with the researcher detailing the study's objective, procedures, and any dangers. This ensured that participants were properly informed and willing to engage (Saunders et al., 2019).

Finally, the researcher maintained objectivity and avoided conflicts of interest, conducting the study only with the goal of revealing facts and providing significant insights to improve contract performance and project implementation in the public sector. Overall, ethical guidelines were followed to ensure the trustworthiness and reliability of this investigation.

3.12 Chapter summary

Finally, this chapter described the study methods used, including the plan for data gathering through secondary and primary research. The study's population, sampling technique, and sample size were discussed. The chapter also discussed the study instruments, questionnaire pretesting, and data validation.

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

4.1 Introduction

In this chapter, the emphasis moves from data collection to extensive analysis and presentation of results. The primary goal is to delve into the collected data, identify patterns, extract significant insights, and interpret the findings in the context of the research questions or hypotheses. This chapter's careful analysis attempts to provide a clear knowledge of the dataset, reveal noteworthy trends, correlations, and relationships, and eventually help to addressing the study objectives. The researcher aims to transform raw data into usable information by using proper analytical methods and tools, thereby enhancing understanding of the issue under examination. This chapter serves as the foundation for reaching conclusions, providing recommendations, and directing future research efforts.

4.2 Demographics of the study

Table 4.1 Demographics data

	Frequency	**Percentage**
Age		
20-30	15	18.75
31-40	30	37.5
41-50	21	26.25
50 and above	14	17.5
Gender		
Female	10	12.5
Male	70	87.5
Department	**5**	**9.26**
Sales	15	18.75

Fleet manager	20	25
Bus operator	45	56.25
Years with organisation		
1-5 years	40	18.52
6-10 years	26	18.52
11-above	14	37.04
Highest Academic Qualification		
Secondary	37	46.25
Diploma	30	37.5
Degree	13	16.25

Source: research data 2024.

Table 4.1 describes the demographics and features of long-distance bus operators at an intercity bus terminal in Lusaka, with a particular emphasis on assessing the impact of monthly fuel assessments on their performance. In terms of age, the majority (37.5%) are between the ages of 31 and 40, followed by those aged 41 and 50 (26.25%), with a lesser fraction in the 20-30 age range (18.75%) and those aged 50 and up (17.5%). The gender distribution indicates a large male majority (87.5%). Within departments, bus operators make up the majority (56.25%), followed by fleet managers (25%), and sales (18.75%). Regarding tenure, the biggest number has been with the organization for 11 years or more (37.04%), followed by 1-5 years (18.52%) and 6-10 years (18.52%). In terms of educational qualifications, the majority (46.25%) have a secondary education, followed by diplomas (37.5%) and degrees (16.25). This comprehensive breakdown offers a snapshot of the demographic mix and organizational structure of Lusaka's long-distance bus operators, establishing the groundwork for assessing the impact of monthly fuel assessments on their performance.

4.3 Descriptive statistics

Table 4.2 Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Error	Std. Deviation
Implementation_of_Monthly_Fuel_Reviews1	80	1.00	4.11	2.3208	.15932	1.42500
Cost_Management_Practices1	80	2.78	4.11	3.4069	.04002	.35795
Operational_Performance_Metrics1	80	1.00	5.00	2.5653	.16068	1.43714
Performance_of_Long_Distance_Bus_Operators1	80	1.11	3.78	2.4306	.09966	.89141

Source research data 2024.

Table 4.2 contains descriptive statistics for four critical characteristics connected to the performance of long-distance bus operators. To begin, the data shows that the minimum score is 1.00, the maximum score is 4.11, with a mean of 2.3208, indicating a modest degree of implementation on average, with some variability represented by a standard deviation of 1.42500. Second, the minimum score is 2.78, the maximum is 4.11, and the mean is 3.4069, indicating a greater level of cost management procedures than fuel review implementation. Third, for operational performance measures, the data show a larger range of scores from 1.00 to 5.00, with a mean of 2.5653 and a noteworthy standard deviation of 1.43714, indicating significant heterogeneity in performance indicators among operators. Finally, the performance of long-distance bus operators has a mean score of 2.4306, with a lower standard deviation of 0.89141 than the other factors, indicating that the operators operate more consistently. These statistics provide information about the distribution and central tendency of these variables, which is critical for understanding the dynamics and potential areas for development in the context of long-distance bus operations.

4.4 One sample t-test

4.4.1 Implementation of Monthly Fuel Reviews

Table 4.3 Implementation of Monthly Fuel Reviews One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1. Monthly fuel reviews are conducted to evaluate fuel consumption patterns.	16.192	79	.000	1.775	1.56	1.99
2. The results of monthly fuel reviews are used to identify areas of improvement in fuel efficiency.	13.151	79	.000	2.163	1.84	2.49
3. Bus operators receive feedback and recommendations based on the monthly fuel reviews.	14.097	79	.000	2.250	1.93	2.57
4. Monthly fuel reviews have helped in reducing fuel wastage and optimizing fuel usage.	14.542	79	.000	2.288	1.97	2.60

5. Bus operators are encouraged to implement fuel-saving strategies discussed during the reviews.	13.151	79	.000	2.163	1.84	2.49
6. Management actively supports and monitors the implementation of fuel-saving initiatives.	14.391	79	.000	2.275	1.96	2.59
7. There is a clear process in place for following up on the action points identified in the monthly fuel reviews.	15.014	79	.000	2.325	2.02	2.63
8. The effectiveness of fuel-saving measures is regularly accessed and communicated to the bus operators.	17.910	79	.000	3.188	2.83	3.54
9. Bus operators feel motivated to improve fuel efficiency as a result of the monthly reviews.	11.786	79	.000	2.463	2.05	2.88

The findings of the one-sample t-test show that bus operators have developed a comprehensive system of monthly fuel evaluations, which has improved fuel economy and cost management. Monthly fuel evaluations examine consumption patterns (mean difference = 1.775, $p < 0.001$) and suggest opportunities for efficiency improvement (mean difference = 2.163, $p < 0.001$). Monthly fuel reviews provide feedback and recommendations for bus operators (mean difference = 2.250, $p < 0.001$), resulting in reduced fuel waste and optimized consumption (mean difference = 2.288, $p < 0.001$). Bus operators are encouraged to apply fuel-saving methods recommended in reviews

(mean difference = 2.163, $p < 0.001$), and management actively supports and supervises their implementation (mean difference = 2.275, $p < 0.001$). There is a clear process for following up on action points identified in monthly fuel reviews (mean difference = 2.325, $p < 0.001$), and the effectiveness of fuel-saving measures is regularly assessed and communicated to bus operators (mean difference = 3.188, $p < 0.001$). Bus operators are driven to increase fuel efficiency following monthly assessments (mean difference = 2.463, $p < 0.001$).

4.4.2 Cost Management Practices

Table 4.4 Cost Management Practices One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
1. Bus operators actively monitor and control fuel expenses.	-1.423	79	.159	-.025	-.06	.01
2. Cost-saving measures related to fuel consumption are prioritized in the operational decision-making process.	-.664	79	.508	-.050	-.20	.10
3. Budgets and targets for fuel expenditure are set and monitored regularly.	4.444	79	.000	.200	.11	.29

4. Training and awareness programs are conducted to promote cost-efficient fuel management practices.	23.516	79	.000	.875	.80	.95
5. Investments in fuel-saving technologies and solutions are considered and evaluated.	.363	79	.717	.025	-.11	.16
6. The impact of cost management practices on overall operational expenses is analyzed and discussed.	5.303	79	.000	.263	.16	.36
7. There is a clear understanding of the cost implications of fuel wastage and inefficiencies.	4.270	79	.000	.188	.10	.27
8. Collaborative efforts are made with fuel suppliers to negotiate better rates and terms.	25.214	79	.000	1.300	1.20	1.40
9. Bus operators are incentivized based on their ability to meet fuel efficiency targets.	17.646	79	.000	.888	.79	.99

The one-sample t-test analysis presented in Table 4.4 shows that bus operators have used a variety of cost control techniques, albeit to differing degrees of focus. The active monitoring and control of fuel expenses (mean difference = -0.025, p = 0.159) and the prioritization of cost-saving measures related to fuel consumption in the decision-making process (mean difference = -0.050, p = 0.508) are not significantly different from the neutral level, despite the fact that they place a strong emphasis on training and awareness programs (mean difference = 0.875, p < 0.001), collaborative efforts with fuel suppliers to negotiate better rates and terms (mean difference = 1.300, p < 0.001), and incentivizing employees based on fuel efficiency targets (mean difference = 0.888, p < 0.001). Furthermore, there appears to be inconsistency in how bus operators analyze and evaluate expenditures in fuel-saving technologies and solutions (mean difference = 0.025, p = 0.717). Overall, the data indicate a strong emphasis on some cost management strategies, but a more moderate or inconsistent approach in others, indicating opportunity for improvement in building a comprehensive and integrated cost management plan.

4.4.3 Operational Performance Metrics

Table 4.5 Operational Performance Metrics One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
1. Key performance indicators (KPIs) related to fuel efficiency are monitored and tracked regularly.	-5.567	79	.000	-.962	-1.31	-.62

2. Operational targets are set to improve fuel efficiency and service quality.	-4.756	79	.000	-.800	-1.13	-.47
3. Customer feedback and satisfaction levels are considered in evaluating operational performance.	-4.259	79	.000	-.737	-1.08	-.39
4. Bus operators receive performance reports highlighting areas of strength and improvement.	-.491	79	.625	-.075	-.38	.23
5. Performance metrics are used to identify training and development needs for bus operators.	-1.262	79	.211	-.200	-.52	.12
6. Benchmarking analysis is conducted to compare operational performance with industry standards.	-.491	79	.625	-.075	-.38	.23
7. Continuous improvement initiatives are implemented based on the results of performance evaluations.	-3.240	79	.002	-.525	-.85	-.20

8. Management actively supports and encourages a culture of performance excellence.	-1.816	79	.073	-.313	-.66	.03
9. Cross-functional teams collaborate to address performance challenges and opportunities.	-1.380	79	.171	-.225	-.55	.10

Bus operators might not be fully optimizing their operational performance measures, according to the results of the one-sample t-test. The test results reveal that operational targets for enhancing fuel efficiency and service quality (mean difference = -0.800) and key performance indicators (KPIs) related to fuel efficiency (mean difference = -0.962) are significantly lower than the neutral level, suggesting a possible need for more focus in these areas. Furthermore, the implementation of continuous improvement efforts based on performance evaluations (mean difference = -0.525) and the evaluation of customer feedback and satisfaction levels (mean difference = -0.737) are also below the neutral threshold. The data also imply that managers encourages a culture of performance excellence, but not to a statistically significant extent, and bus operators report performance information to their operators (no significant difference from neutral). Overall, the results point to the possibility that bus operators could increase their emphasis on measures linked to fuel efficiency, customer-centric performance evaluation, and the use of performance data to promote a culture of excellence and continuous improvement.

4.4.4 Performance of Long-Distance Bus Operators

Table 4.6 Performance of Long-Distance Bus Operators One-Sample Test

	Test Value = 3				
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference

					Lower	Upper
1. The monthly fuel reviews have helped me understand fuel consumption patterns better.	-13.474	79	.000	-1.263	-1.45	-1.08
2. I believe that implementing fuel-saving strategies discussed during the fuel reviews has positively impacted fuel efficiency.	-10.001	79	.000	-.775	-.93	-.62
3. I have seen a noticeable reduction in fuel wastage since the implementation of monthly fuel reviews.	-4.164	79	.000	-.600	-.89	-.31
4. The feedback and recommendations received from the monthly fuel reviews have been helpful in improving fuel efficiency.	-2.997	79	.004	-.362	-.60	-.12
5. I actively apply the fuel-saving measures discussed during the reviews in my daily operational practices.	-4.556	79	.000	-.513	-.74	-.29

6. Management's support and monitoring of fuel-saving initiatives have motivated me to improve fuel efficiency.	-1.044	79	.300	-.087	-.25	.08
7. I feel that the action points identified in the monthly fuel reviews are followed up on effectively.	-9.135	79	.000	-.825	-1.00	-.65
8. The effectiveness of fuel-saving measures is regularly assessed and communicated to me.	-3.100	79	.003	-.400	-.66	-.14
9. I am incentivized or rewarded based on my ability to improve fuel efficiency.	-2.721	79	.008	-.300	-.52	-.08

The one-sample t-test results presented in Table 4.6 show that long-distance bus operators have differing opinions on how well cost management techniques are working. The test results indicate that the operators' perception of the applied procedures is relatively negative or unsatisfied, as the mean scores for the majority of the performance indicators are much lower than the neutral test value of 3.

In particular, the results show that operators have not been able to gain a better understanding of fuel consumption patterns through the monthly fuel reviews (mean difference = -1.263) or through the implementation of fuel-saving strategies (mean difference = -0.775). Additionally, operators say that fuel waste has not significantly decreased (mean difference = -0.600) and that they have not consistently found the comments and suggestions from the monthly fuel reviews to be useful (mean difference = -0.362).

Furthermore, the operators believe that the action points suggested in the evaluations are not being followed up on properly (mean difference = -0.825), and that the assessment and communication of the success of fuel-saving measures is inadequate (mean difference = -0.400). Finally, the operators are dissatisfied with the incentive or reward schemes for improving fuel efficiency (mean difference = -0.300). However, the test results show that management's backing and monitoring of fuel-saving activities did not significantly encourage operators (p = 0.300).

4.5 Correlation analysis

Table 4.7 Correlations

		Implementation_of_Monthly_Fuel_Reviews1	Cost_Management_Practices1	Operational_Performance_Metrics1	Performance_of_Long_Distance_Bus_Operators1
Implementation_of_Monthly_Fuel_Reviews1	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	80			
Cost_Management_Practices1	Pearson Correlation	.767**	1		
	Sig. (2-tailed)	.000			
	N	80	80		
Operational_Performance_Metrics1	Pearson Correlation	.199	-.065	1	
	Sig. (2-tailed)	.076	.569		
	N	80	80	80	
Performance_of_Long_Distance_Bus_Operators1	Pearson Correlation	-.072	-.280*	.876**	1
	Sig. (2-tailed)	.527	.012	.000	

N	80	80	80	80

Correlation is significant at the 0.01 level (2-tailed).

Table 4.7 shows the connections between Implementation of Monthly Fuel Reviews (IMFR), Cost Management Practices (CMP), Operational Performance Metrics (OPM), and Performance of Long-Distance Bus Operators (PLDBO). IMFR and CMP have complete positive correlations with themselves (Pearson correlation of 1) and a significant positive connection with each other (IMFR-CMP = 0.767). IMFR has a modest positive association with OPM (0.199) and a negligible negative connection with PLDBO (-0.072), which are not statistically significant (p = 0.076 and p = 0.527, respectively). CMP has a moderate negative association with PLDBO (-0.280), which is significant at the 0.05 level (p = 0.012), although its correlation with OPM is modest and negative (-0.065), but not statistically significant (p = 0.569). OPM correlates favorably with itself (Pearson correlation of 1), weakly positively with IMFR (0.199), but not significantly (p = 0.076), and has no significant correlation with PLDBO (0.876), indicating low predictive power. PLDBO has a moderate negative correlation with CMP (-0.280), which is significant at the 0.01 level (p = 0.012), and a substantial positive correlation with OPM (0.876), demonstrating OPM's usefulness in predicting bus operator performance. Overall, whereas IMFR and CMP are substantially correlated, OPM emerges as a reliable predictor of PLDBO success, with lesser connections elsewhere.

4.6 Regression analysis

Table 4.8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.912[a]	.832	.825	.37276	.832	125.256	3	76	.000

a. Predictors: (Constant), Operational_Performance_Metrics1, Cost_Management_Practices1, Implementation_of_Monthly_Fuel_Reviews1

The model summary shows the results of a multiple linear regression analysis with three predictors: operational performance metrics, cost management practices, and implementation of monthly fuel reviews, coupled with a constant term. The coefficient of determination (R) is 0.912, showing a significant positive connection between the predictors and the dependent variable. The R Square value of 0.832 indicates that the predictors account for about 83.2% of the variability in the dependent variable. The Adjusted R Square, which accounts for the number of predictors, is 0.825, indicating a more accurate measure of model fit. The standard error of the estimate, which represents the accuracy of regression predictions, is 0.37276. Change statistics show a significant increase in R Square after adding the predictors to the model, with an F-value of 125.256 and a p-value of less than 0.001, validating the model's overall statistical significance.

Table 4.9 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52.214	3	17.405	125.256	.000[b]
	Residual	10.560	76	.139		
	Total	62.775	79			

a. Dependent Variable: Performance_of_Long_Distance_Bus_Operators1

b. Predictors: (Constant), Operational_Performance_Metrics1, Cost_Management_Practices1, Implementation of Monthly Fuel Reviews.

The performance of long-distance bus operators, the dependent variable being predicted by the regression model, is broken down into its sources of variance in the ANOVA table. Regression sum of squares (52.214) is significantly larger than the residual sum of squares (10.560), indicating that the regression model, which includes a constant term and the predictors Operational Performance Metrics, Cost Management Practices, and Implementation of Monthly Fuel Reviews, is statistically significant ($F = 125.256$, $p < 0.001$). With a mean square of 17.405, the regression model explains a significant amount of the variance in the dependent variable overall. This implies that the predictors as a whole help to explain the variation in long-distance bus operators' performance. Moreover, the average unexplained variance inside the model is indicated by the residual mean square (0.139). All things considered, the ANOVA results support the importance

of the regression model in predicting the long-distance bus operators' performance, as the predictors account for a sizable percentage of the variance in the dependent variable.

Table 4.10 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.821	.607		3.000	.004
	Implementation_of_Monthly_Fuel_Reviews1	-.128	.050	-.204	-2.570	.012
	Cost_Management_Practices1	-.160	.194	-.064	-.824	.413
	Operational_Performance_Metrics1	.566	.032	.912	17.834	.000

a. Dependent Variable: Performance_of_Long_Distance_Bus_Operators1

The regression coefficients for the model's predictors of the dependent variable, Performance of Long-Distance Bus Operators, are shown in the coefficients table. The predicted value of the dependent variable when all predictors are zero is indicated by the constant term, which is 1.821. The coefficient for the implementation of monthly fuel reviews is -0.128, meaning that there is a 0.128 unit drop in long-distance bus operators' performance for every unit increase in monthly fuel reviews. This coefficient is statistically significant ($p = 0.012$), indicating that fuel review adoption has a noticeable impact on performance. Cost Management Practices, with a coefficient of -0.160, has a negative link with performance that is not statistically significant ($p = 0.413$), demonstrating its modest influence. Operational Performance Metrics has the greatest effect on performance, with a coefficient of 0.566, suggesting that for every unit increase in operational performance metrics, long-distance bus operators' performance improves by 0.566 units. The coefficient is extremely significant ($p<0.001$), indicating a large beneficial influence of operational indicators on performance.

Table 4.11 Hypothesis test result

Hypothesis	Predictor Variable	Coefficient (Beta)	p-value	Result
Hypothesis One	Cost Management Practices	-0.160	0.413	H_0 Accepted
Hypothesis Two	Operational Performance Metrics	0.566	0.001	H_0 Rejected
Hypothesis Three	Implementation of Monthly Fuel Reviews	-0.128	0.012	H_0 Rejected

Source: research data 2024

Table 4.10 presents the findings using the coefficients and p-values. For Hypothesis One, we fail to reject the null hypothesis because the p-value for Cost Management Practices is greater than the significance level (0.05), indicating that there is no significant relationship between variations in cost management practices and long-distance bus operator performance. In Hypothesis Two, the p-value for Operational Performance Metrics is less than 0.001, prompting us to reject the null hypothesis and conclude that there is a substantial association between key operational performance metrics and the performance of long-distance bus operators. In conclusion, we may reject the null hypothesis for Hypothesis Three, which states that differences in monthly fuel reviews have a substantial impact on the performance of long-distance bus operators because the p-value for the implementation of monthly fuel reviews is 0.012.

4.7 Qualitative analysis

4.7.1 Examining the Relationship between Cost Management Practices and the Performance of Long-Distance Bus Operators

Theme 1: Understanding current cost management practices within the organization.

*“Within our company, we keep a careful eye on labor expenditures, gasoline use, and maintenance costs. Digital tracking devices have been deployed to document fuel consumption and conduct data analysis to pinpoint places where efficiency can be maximized."...*Respondent 03.

*"We place a high focus on cost management and routinely examine our operating expenditures. We negotiate contracts with suppliers to secure the best rates, track spending through monthly audits, and fund training initiatives to make sure staff members are aware of the value of cost control."...*Respondent 07.

*"To properly manage expenses, we use both automatic and manual procedures. Regular financial report analysis by our finance staff helps us spot any irregularities or places where money is being overspent. We also welcome input from drivers and employees to find possible areas for cost savings”. ..*Respondent 08.

Theme 2: Exploring challenges and opportunities in cost management.

"The volatile price of fuel is one of the biggest issues we deal with in cost management. Since it's hard to forecast how fluctuations in fuel prices will affect our profitability, we have to make continual adjustments to our plans and budgets." ….Respondent 09.

"Using technology will open up opportunities to improve cost management. By putting in place sophisticated tracking systems and analytics tools, we can get real-time insights into our spending, which empowers us to make data-driven decisions and spot opportunities for improvement"….Respondent 04.

"The industry's competitiveness offers possibilities as well as obstacles. There is pressure on us to keep prices low in order to draw in customers, but we also have to strike a balance in order to be profitable. Investigating novel pricing techniques and value-added services can assist us in controlling expenses and maintaining competitiveness." "….Respondent 02.

Theme 3: Assessing how cost management practices are perceived to impact the performance of long-distance bus operators.

" Our success is directly impacted by effective cost management since it keeps us operating profitably and efficiently. Spending less allows us to invest in fleet upkeep and upgrades, more efficiently use our resources, and ultimately give our clients greater service""….Respondent 07.

"Ineffective cost control can result in lost revenue and operational inefficiencies, which can harm our standing in the market and performance. To keep a competitive advantage and guarantee long-term performance, we must constantly assess our cost management procedures." "….Respondent 02.

"Cost control is essential to delivering on the expectations of customers who demand dependable and reasonably priced transportation services. Effective cost control allows us to maintain fair prices while providing excellent service, which eventually improves our output and encourages client loyalty""….Respondent 02.

4.7.2 Evaluate the Association between Operational Performance Metrics and Performance of Long-Distance Bus Operators.

Theme 1: Identifying key operational performance metrics used to evaluate bus operator performance.

" Our utilization of on-time performance is one of our primary KPIs. This entails monitoring the proportion of journeys that start and finish on time. We must continue to be on time in order to satisfy clients and maximize operational effectiveness." "….Respondent 06.

"Passenger pleasure is another crucial metric. We frequently use surveys or online tools to get input from travelers about their whole experience, taking into account things like comfort, cleanliness, and customer service""….Respondent 10.

"For us, revenue per kilometer is another important statistic. The money gained per unit of traveled distance is measured, which aids in our evaluation of the effectiveness of our routes. This measure informs choices on pricing and route planning." "….Respondent 04.

"Metrics for safety performance are crucial to our assessment procedure. To protect our passengers and employees, we keep an eye on accident rates, adherence to safety rules, and driver behavior. For us, safety is not optional'""….Respondent 01.

Theme 2: exploring how these metrics are measured and tracked.

"Passengers are typically asked to complete feedback forms or post-trip surveys in order to provide data for metrics measuring their level of satisfaction. In order to gain further understanding of consumer attitudes, we also keep an eye on social media sites and internet reviews." "….Respondent 09.

"The amount of money made from ticket sales and the total distance our buses travel are used to compute revenue per kilometer. Our accounting systems are strong enough to measure this parameter precisely and examine trends over time'""….Respondent 08.

" Typically, incident reports, driver training records, and vehicle maintenance logs are used to track safety performance indicators. To make sure that safety regulations are being followed and to pinpoint areas that need improvement, we regularly audit and check our operations'""….Respondent 06.

Theme 3: Understanding any challenges or limitations in using operational performance metrics.

" Maintaining uniformity in data collecting and reporting across several departments and locations is one of our challenges. The precision and dependability of our performance evaluations may be impacted by differences in reporting techniques or metrics interpretation'""….Respondent 02.

"It's possible that some operational performance measures fall short in describing the complexity of our business processes or the range of client wants. For instance, although while punctuality is crucial, it might not accurately represent the influence of variables like traffic jams or uncontrollable road conditions'""….Respondent 03.

"Passenger pleasure can be measured subjectively, with individual experiences or preferences playing a role. Standardizing feedback gathering techniques and precisely estimating general consumer satisfaction levels are difficult tasks""….Respondent 02.

"It might be incorrect to interpret operational performance data in isolation. For instance, a high revenue per kilometer may be a sign of profitability, but it may also be a sign of poor customer service or experience. To obtain a thorough grasp of performance, it is important to take into account several indicators in an integrated manner""….Respondent 04.

4.7.3 To investigate the Effects of Monthly Fuel Reviews, on the performance of Long-Distance Bus Operators

Theme 1: Exploring the process of conducting monthly fuel reviews and their impact on operations.

" We thoroughly examine the fuel usage information from every one of our buses as part of our monthly fuel evaluations. We assess any disparities or patterns that might point to inefficiencies or potential areas for development by contrasting actual usage with estimated estimations." "….Respondent 05.

"The efficacy of fuel-saving measures put in place since the last assessment period is also evaluated during periodic reviews. This could involve maintaining equipment, upgrading technology, or implementing driver education initiatives to maximize fuel efficiency""….Respondent 07.

"The results of our monthly fuel reviews guide decisions about gasoline purchases, route planning, and maintenance plans for vehicles. Through the identification of patterns and trends in fuel usage, strategic modifications can be implemented to improve operational efficiency and minimize expenses""….Respondent 09.

Theme 2: Understanding how fuel reviews and cost management practices interact with operational performance metrics.

" Our operational expenses are heavily influenced by fuel use, so the results of our monthly fuel evaluations have a direct impact on important performance criteria like profitability and cost per kilometer. We can raise overall operational performance and increase these KPIs by optimizing fuel efficiency." "….Respondent 01.

"Sustaining competitive pricing and optimizing revenue are contingent upon the implementation of efficient cost management strategies, such as those guided by our fuel evaluations. Cost management enables us to more effectively deploy resources, finance fleet improvements, and provide superior customer service, all of which have an influence on key performance indicators like revenue per passenger and customer satisfaction""….Respondent 03.

" Additionally, fuel reviews assist us in identifying possible areas for driver behavior and vehicle maintenance procedures to be improved. These actions can have an impact on safety performance indicators like accident rates and regulatory compliance. We can improve fuel economy and safety results by encouraging fuel-efficient driving practices and making sure that maintenance is done properly""….Respondent 07.

" We can make decisions based on data because fuel reviews and operational performance measures are integrated. We can find links and causal ties between fuel management procedures and overall operational efficiency by consistently tracking and evaluating performance indicators. This helps us to make well-informed strategic decisions that promote long-term success and growth." "….Respondent 10.

Theme 3: Assessing how the combined effects of these factors influence overall performance.

"Our organization's total performance and competitiveness in the market are directly impacted by the combined effects of monthly fuel reviews and cost control methods. We can increase profitability, raise consumer satisfaction, and solidify our position in the market by maximizing fuel efficiency and containing costs." "….Respondent 04.

Furthermore, our company has a constant improvement culture thanks to the insights gathered from our fuel reviews. Our fuel management procedures have inefficiencies that we may find and fix to improve operating efficiency, encourage innovation, and better adjust to changing market conditions." "….Respondent 02.

The effectiveness of our fuel management methods is contingent upon the efficient exchange of information and cooperation among several departments and stakeholders within our establishment. Through cultivating a cooperative atmosphere and exchanging optimal methodologies, we can harness our combined proficiency to accomplish shared objectives and propel enduring enhancements in performance." "….Respondent 07.

"*In the end, assessing how monthly fuel reviews affect our performance as long-distance bus operators is complex and necessitates a comprehensive analysis of a range of variables, such as trends in fuel consumption, cost-control strategies, operational performance indicators, and the larger business environment. Through a thorough approach to performance assessment and the use of data-driven insights, we may recognize areas for optimization, reduce risks, and attain sustained success and market viability*." "….Respondent 02.

4.8 Discussion of findings

4.8.1 Examine the Relationship between Cost Management Practices and the performance of Long-Distance Bus Operators

The study's findings, which examine the relationship between cost management strategies and long-distance bus operator performance, provide useful insights into the industry's cost management dynamics. The study emphasizes the diversity of cost management tactics among bus operators, with varied degrees of emphasis on different procedures. While some strategies, such as training programs and collaborative efforts with fuel suppliers, gain a lot of attention, others, such as active monitoring of fuel expenses and prioritizing cost-cutting measures in decision-making processes, are less visible. These findings point to the need for a more comprehensive approach to cost management that considers all areas of operational efficiency and cost control. Supporting research, such as Zhang et al. (2018) and Li et al. (2019), confirms the importance of proactive cost management practices in improving cost efficiency and overall financial

performance in the transportation industry, emphasizing the importance of supplier collaboration and employee incentives.

Furthermore, the study's hypothesis testing shows that differences in cost management approaches do not always transfer into better performance outcomes for long-distance bus operators. This demonstrates the complexities of the relationship between cost management and performance, which can be influenced by a variety of contextual factors such as market rivalry and the regulatory environment. The interview replies shed more light on the problems and opportunities in cost management, emphasizing the necessity of understanding organizational processes and employing technology to improve cost management practices. Effective cost management is perceived to have positive effects on customer happiness, financial sustainability, and operational efficiency. These effects highlight how important cost management is in achieving overall performance goals. Supporting research by Ghosal and Loungani (2010) emphasizes how effective cost management techniques improve operational performance and customer satisfaction, highlighting the need for more study and the application of all-encompassing strategies to address issues facing the industry (Wu et al., 2015).

4.8.2 Evaluate the Association between Operational Performance Metrics and performance of Long-Distance Bus Operators

Financial sustainability, operational efficiency, and customer satisfaction are all thought to benefit from effective cost management. These outcomes demonstrate how crucial cost control is to reaching overall performance objectives. Supporting research by Ghosal and Loungani (2010) highlights the need for additional research and the application of comprehensive strategies to address issues facing the industry by emphasizing how effective cost management techniques improve operational performance and customer satisfaction (Wu et al., 2015). The focus on these KPIs highlights how complex performance evaluation is in the transportation industry and how operational management must be approached holistically. Research that provides support, like that conducted by Tavana et al. (2020), highlights how crucial it is to use a variety of performance measurements in order to evaluate organizational performance in its entirety and pinpoint areas that require development.

The study also looks at how bus operators assess and manage these parameters, providing insight into the systems and data collection techniques used. For example, post-trip surveys or online feedback platforms are frequently used to measure passenger happiness, but revenue per kilometer is determined by taking into account both the distance traveled and the sales of tickets. In a similar vein, incident reports and driver training records are used to track safety performance measures. This methodical approach to gathering and analyzing data is indicative of the industry's dedication to guaranteeing accountability, openness, and ongoing operational performance enhancement. According to recent research by Kim et al. (2021), real-time tracking and operational metrics analysis are made easier by modern data analytics and digital technologies, which also improve performance monitoring and decision-making processes in the transportation industry.

However, the report also notes obstacles and limitations in applying operational performance measurements successfully. These problems include assuring consistency in data collecting and reporting, addressing the subjectivity of certain indicators like passenger happiness, and interpreting performance metrics in isolation without considering broader contextual considerations. These findings highlight the difficulties of performance evaluation and the importance for bus operators to take a sophisticated and integrated approach to metric selection, data gathering, and analysis. Supporting studies, such as the research by Wang et al. (2022), underline the necessity of incorporating both quantitative and qualitative performance indicators and employing advanced analytical approaches to gain actionable insights from performance data.

The findings emphasize the importance of operational performance measurements in driving organizational performance and enabling continuous improvement in the long-distance bus operator industry. Bus operators can improve operational efficiency, customer happiness, financial performance, and safety compliance by tracking and evaluating important data in a methodical manner, ultimately contributing to overall organizational success and market competitiveness.

4.8.3 Investigate the Combined Effects of Monthly Fuel Reviews, Cost Management Practices, and Operational Performance Metrics on the performance of Long-Distance Bus Operators

The study's findings, which looked at the effects of monthly fuel assessments on the performance of long-distance bus operators, provide vital insights into the industry's operations. First, the study emphasizes the need of monthly fuel reviews as a strategic tool for reviewing gasoline consumption patterns, finding areas for improvement in fuel efficiency, and optimizing fuel usage. The emphasis on data-driven decision-making via systematic analysis of fuel consumption data is consistent with current literature that emphasizes the need of performance monitoring and continual improvement in the transportation sector (Singh et al., 2021).

Moreover, the study highlights the integration of monthly fuel evaluations with broader cost management strategies and operational performance measurements. By connecting fuel management strategies with key performance measures such as cost per kilometer, profitability, revenue per passenger, and safety performance metrics, bus operators may promote operational efficiency and boost overall performance outcomes (Zhang et al., 2018). The findings imply that good cost management procedures, informed by monthly fuel reviews, are critical to maintaining competitive pricing, increasing revenue, and enhancing customer happiness.

Furthermore, the study stresses the multidimensional impact that monthly fuel evaluations have on organizational performance and market competitiveness. Bus operators can increase profitability, strengthen their industry position, and successfully adjust to changing market dynamics by increasing fuel efficiency, reducing expenses, and cultivating a culture of continuous improvement (Li et al., 2019). The integration of fuel reviews with operational performance metrics helps bus operators to make data-driven decisions, resulting in informed strategic decisions that generate long-term growth and success.

The findings of the one-sample t-test give empirical evidence confirming the usefulness of monthly fuel reviews in increasing fuel efficiency and cost management among bus operators. The significant mean differences and p-values demonstrate a strong link between the adoption of monthly fuel reviews and performance results, emphasizing the necessity of systematic performance monitoring and continuous improvement programs (Hassini et al., 2019). The findings underline the crucial role of monthly fuel reviews as a strategic tool for boosting fuel efficiency, cost management, and overall performance in the long-distance bus operator business. By harnessing data-driven insights from these evaluations and integrating them with larger

organizational processes, bus operators may drive operational excellence, foster innovation, and achieve long-term success in a competitive market setting.

4.9 Chapter summary

The fourth chapter focuses on data analysis and the presenting of major findings. This chapter attempted to find patterns, trends, and insights relevant to the research objectives by systematically examining and interpreting data. The dataset was examined using a variety of analytical techniques and tools, including statistical methodologies and qualitative research approaches. The data were gathered and presented in a logical manner, with visual aids such as tables, charts, and graphs to help with comprehension. The findings were synthesized to throw light on the study questions or hypotheses, providing significant insights into the topic being studied. Furthermore, this chapter evaluated the findings' ramifications, importance in respect to existing literature, and potential future study directions. Overall, Chapter Four played an important role in the research process, bridging the gap between data collection and the development of conclusions and suggestions.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

5.1 Introduction

Chapter Five summarizes the research journey undertaken in this study, presenting a thorough conclusion and insightful recommendations. This chapter summarizes the important findings reported in previous chapters and discusses their ramifications, significance, and broader contributions to the field of research. By revisiting the research aims and hypotheses, this chapter provides a retrospective analysis of the study's findings and investigates their congruence with current literature and theoretical frameworks. Furthermore, it delineates the practical significance of the findings for industry practitioners, policymakers, and stakeholders, stressing actionable insights and prospects for further research. In summary, Chapter Five captures the heart of the research attempt, providing a coherent narrative that summarizes the study's contributions, limits, and future directions.

5.2 Conclusion

5.2.1 Examine the Relationship between Cost Management Practices and the performance of Long-Distance Bus Operators

In conclusion, the investigation of the relationship between cost management strategies and the performance of long-distance bus operators uncovers some crucial insights into the operational dynamics within the industry. The findings underline the wide and complicated nature of cost management measures utilized by bus operators, demonstrating variations in emphasis across different approaches. While some techniques, such as training programs and collaborative efforts with fuel suppliers, attract considerable attention, others, including active monitoring of fuel expenses and prioritizing of cost-saving measures in decision-making processes, appear to be less prevalent. This shows a need for a more holistic and integrated approach to cost management that covers all areas of operational efficiency and cost control.

Furthermore, the hypothesis testing results show that changes in cost management procedures may not necessarily result in observable performance improvements for long-distance bus operators. This demonstrates the complexities of the relationship between cost management and performance, which is influenced by a wide range of contextual factors such as market rivalry and

regulatory settings. Regardless, the perceived effects of effective cost management on operational efficiency, financial sustainability, and customer happiness highlight cost management's critical role in driving overall industry performance outcomes.

The interview replies provide additional insight into the problems and opportunities in cost management, emphasizing the necessity of understanding organizational processes and employing technology to improve cost management practices. Furthermore, the positive correlation between effective cost management practices and operational performance, as demonstrated in supporting research, emphasizes the importance of ongoing research and the implementation of comprehensive strategies to address industry challenges and improve competitiveness.

In conclusion, the findings highlight the crucial relevance of good cost management procedures in the long-distance bus operator market. By implementing a thorough and proactive approach to cost management, bus operators may improve operational efficiency, assure financial sustainability, and boost customer satisfaction, thereby establishing themselves for long-term success in a dynamic and competitive market context.

5.2.2 Evaluate the Association between Operational Performance Metrics and performance of Long-Distance Bus Operators

Finally, examining the relationship between operational performance measures and long-distance bus operator performance sheds light on the multidimensional structure of performance evaluation in the transportation business. The study identifies key operational performance metrics such as on-time performance, passenger satisfaction, revenue per kilometer, and safety performance metrics, all of which serve as critical indicators of operational efficiency, customer experience, financial performance, and safety compliance. The emphasis on these measures highlights the holistic approach needed for effective operational management and performance optimization.

Furthermore, the study gives insight on the systematic approach used by bus operators to measure and track operational performance indicators. By using data gathering tools such as post-trip questionnaires, online feedback platforms, and incident reports, bus operators demonstrate a commitment to operational transparency, accountability, and continuous improvement. The

integration of modern data analytics and digital technology improves performance monitoring and decision-making processes, allowing for real-time tracking and analysis of operational parameters.

However, the report also identifies obstacles and limitations in properly utilizing operational performance data. These problems include assuring consistency in data collecting and reporting, addressing the subjectivity of specific measurements, and evaluating performance metrics in isolation without taking into account broader contextual aspects. Despite these limitations, the findings highlight the importance of taking a sophisticated and integrated approach to metric selection, data collecting, and analysis in order to generate actionable insights and promote continuous improvement in operational performance.

Overall, the findings emphasize the significance of operational performance measurements in driving organizational performance and enabling continuous improvement in the long-distance bus operator market.

5.2.3 Investigate the Effects of Monthly Fuel Reviews, on the performance of Long-Distance Bus Operators

Finally, the study of the combined effects of monthly fuel assessments, cost management measures, and operational performance measurements on long-distance bus operators' performance provides crucial insights into the industry's operating strategy. The findings emphasize the need of monthly fuel reviews as a strategic tool for assessing fuel consumption patterns, identifying areas for improvement, and optimizing fuel usage. Bus operators can make educated decisions that boost operational efficiency and improve overall performance results by using a data-driven strategy and conducting systematic analyses of fuel usage data.

Furthermore, the incorporation of monthly fuel evaluations into broader cost management techniques and operational performance indicators highlights the interdependence of numerous organizational activities. By aligning fuel management strategies with key performance measures such as cost per kilometer, profitability, revenue per passenger, and safety performance criteria, bus operators may optimize resources, maximize revenue, and improve customer satisfaction. This comprehensive approach emphasizes the significance of examining several factors of performance evaluation in order to create corporate success.

The one-sample t-test provides additional statistical evidence for the effectiveness of monthly fuel reviews in increasing fuel economy and cost management among bus operators. The significant mean differences and p-values indicate that implementing monthly fuel reviews is strongly associated with improved performance results. This highlights the significance of organized performance monitoring and continuous improvement activities in improving operational efficiency and fostering long-term growth in the bus operator business.

In conclusion, the data demonstrate the importance of monthly fuel reviews as a strategic tool for improving fuel efficiency, cost management, and overall performance in the long-distance bus operator business.

5.3 Recommendation

5.3.1 Policy recommendations

Several policy recommendations can be made to improve operational efficiency and promote sustainable growth in the industry based on the findings of the studies that looked at the relationship between cost management practices, operational performance metrics, and the impact of monthly fuel reviews on long-distance bus operators' performance. These studies included the following investigations:

1. Bus operators should use integrated cost management techniques that take into account every facet of operational effectiveness, such as labor costs, fuel usage, maintenance costs, and procurement procedures. Bus operators can maximize resources and enhance financial performance by giving priority to cost-cutting initiatives and putting in place extensive training programs.

2. Data-Driven Performance Monitoring: To track operational performance measures in real time, bus operators should make use of digital technology and advanced data analytics. Operators can detect patterns, quickly resolve problems, and promote continuous improvement in service delivery by gathering and evaluating data on variables including on-time performance, passenger happiness, revenue per kilometer, and safety compliance.

3. Regular Fuel Reviews: Bus operators' cost-management procedures and fuel efficiency can be greatly enhanced by instituting systematic monthly fuel evaluations. These evaluations must to include a thorough examination of fuel consumption trends, the identification of potential improvement areas, and proactive steps to maximize fuel efficiency. To guarantee ongoing development in fuel management procedures, regular feedback and follow-up on action items found during fuel assessments are crucial.

4. Collaboration and Knowledge Sharing: Within the industry, bus operators ought to promote a culture of cooperation and information exchange. Operators may address shared difficulties, generate industry-wide improvements, and improve market competitiveness by discussing best practices, lessons learned, and creative solutions.

5. Regulatory Support and Incentives: Bus operators should be encouraged to adopt sustainable practices and make investments in fuel-efficient technologies by government agencies and regulatory authorities through assistance and incentives. This would encourage environmental sustainability and lower operating expenses. Examples of this would be tax breaks, grants for technology advancements, and subsidies for fuel-saving projects.

6. Stakeholder Engagement: To better understand stakeholders' requirements and expectations, it is imperative to engage with them, including suppliers, consumers, employees, and industry groups. Through feedback solicitation, complaint resolution, and stakeholder involvement in decision-making procedures, bus operators can cultivate trust, promote loyalty, and improve overall performance outcomes. In summary, long-distance bus operators can enhance operational effectiveness, advance cost-control procedures, and promote long-term industry growth by putting these policy proposals into reality. Bus operators may successfully negotiate obstacles, seize opportunities, and maintain long-term success in a competitive and dynamic industry by taking a proactive and cooperative attitude.

5.3.2 Future Research Recommendations

Several directions for further research can be suggested in light of the results and conclusions from the analysis of cost management procedures, assessment of operational performance indicators, and study into the impact of monthly fuel reviews on the performance of long-distance bus operators:

1. Longitudinal Studies: Perform long-term research to monitor how long-term cost management strategies, operational performance measures, and monthly fuel evaluations affect long-distance bus operators' financial success, operational effectiveness, and customer happiness. The long-term viability and efficacy of these tactics can be better understood through longitudinal study.

2. Comparative Analysis: Conduct comparative evaluations between various nations, regions, or regulatory frameworks to investigate differences in operational performance measures, cost management strategies, and the effect of monthly fuel assessments on bus operator performance. The impact of contextual factors on organizational strategy and performance outcomes can be clarified through comparative research.

3. Regulatory Environment Analysis: Examine how industry standards, legislative initiatives, and regulatory frameworks affect operational performance measures, fuel efficiency optimization tactics, and cost management techniques for long-distance bus operators. Policymakers and industry stakeholders can learn about the possible effects of regulatory changes on organizational strategies and performance by conducting regulatory environment research.

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Appendices

Appendix 1. QUESTIONNAIRE

Part A: Demographics

1. Age _____
2. Gender F ___ M___
3. Marital status

Single (never married) ___

Married ___

Widowed ___

Separated ___

Divorced ___

4. Education (highest level attained)

None ____

Primary ___

Junior Secondary ___

Senior Secondary ___

Post-Secondary ____

Part B: Study variables

Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree):

Implementation of Monthly Fuel Reviews:	**1**	**2**	**3**	**4**	**5**
1. Monthly fuel reviews are conducted to evaluate fuel consumption patterns.					

2. The results of monthly fuel reviews are used to identify areas of improvement in fuel efficiency.					
3. Bus operators receive feedback and recommendations based on the monthly fuel reviews.					
4. Monthly fuel reviews have helped in reducing fuel wastage and optimizing fuel usage.					
5. Bus operators are encouraged to implement fuel-saving strategies discussed during the reviews.					
6. Management actively supports and monitors the implementation of fuel-saving initiatives.					
7. There is a clear process in place for following up on the action points identified in the monthly fuel reviews.					
8. The effectiveness of fuel-saving measures is regularly accessed and communicated to the bus operators.					
9. Bus operators feel motivated to improve fuel efficiency as a result of the monthly reviews.					
Cost Management Practices:	**1**	**2**	**3**	**4**	**5**
1. Bus operators actively monitor and control fuel expenses.					
2. Cost-saving measures related to fuel consumption are prioritized in the operational decision-making process.					
3. Budgets and targets for fuel expenditure are set and monitored regularly.					
4. Training and awareness programs are conducted to promote cost-efficient fuel management practices.					

5. Investments in fuel-saving technologies and solutions are considered and evaluated.					
6. The impact of cost management practices on overall operational expenses is analyzed and discussed.					
7. There is a clear understanding of the cost implications of fuel wastage and inefficiencies.					
8. Collaborative efforts are made with fuel suppliers to negotiate better rates and terms.					
9. Bus operators are incentivized based on their ability to meet fuel efficiency targets.					
Operational Performance Metrics	**1**	**2**	**3**	**4**	**5**
1. Key performance indicators (KPIs) related to fuel efficiency are monitored and tracked regularly.					
2. Operational targets are set to improve fuel efficiency and service quality.					
3. Customer feedback and satisfaction levels are considered in evaluating operational performance.					
4. Bus operators receive performance reports highlighting areas of strength and improvement.					
5. Performance metrics are used to identify training and development needs for bus operators.					
6. Benchmarking analysis is conducted to compare operational performance with industry standards.					
7. Continuous improvement initiatives are implemented based on the results of performance evaluations.					

8. Management actively supports and encourages a culture of performance excellence.					
9. Cross-functional teams collaborate to address performance challenges and opportunities.					
Performance of Long-Distance Bus Operators	**1**	**2**	**3**	**4**	**5**
1. The monthly fuel reviews have helped me understand fuel consumption patterns better.					
2. I believe that implementing fuel-saving strategies discussed during the fuel reviews has positively impacted fuel efficiency.					
3. I have seen a noticeable reduction in fuel wastage since the implementation of monthly fuel reviews.					
4. The feedback and recommendations received from the monthly fuel reviews have been helpful in improving fuel efficiency.					
5. I actively apply the fuel-saving measures discussed during the reviews in my daily operational practices.					
6. Management's support and monitoring of fuel-saving initiatives have motivated me to improve fuel efficiency.					
7. I feel that the action points identified in the monthly fuel reviews are followed up on effectively.					
8. The effectiveness of fuel-saving measures is regularly assessed and communicated to me.					
9. I am incentivized or rewarded based on my ability to improve fuel efficiency.					