RESEARCH ARTICLE

JENER Journal of Empirical and Non-Empirical Research
Volume 2, Issue 1, Page 23-40 | Article No. 3
DOI: 10.4898/jener.v2i1.a3
ISSN: 7895-9216
Journal homepage: https://jenerjournal.com

JENER Journal
JENER Journal of Empirical and Non-Empirical Research

Investigating the Effects of Fuel Price Fluctuations on Sustainable Business Performance of Small and Medium Enterprises (SMEs) In Zambia: A Case Study of Chingola District

Andrew Mbeule[1] and Peter Silwimba[2a]

1School of Humanities and Business, Information and Communications University, Lusaka, Zambia
2Risk Department, National Savings and Credit Bank
[a] *School of Humanities and Business, Information and Communications University, Lusaka, Zambia*
[a]Corresponding Author: Peter Silwimba, Email: silwimbap47@gmail.com

APA Citation and referencing: Mbeule, A. & Silwimba, P. (2026). Investigating the Effects of Fuel Price Fluctuations on Sustainable Business Performance of Small and Medium Enterprises (SMEs) in Zambia: A Case Study of Chingola District. *.JENER Journal of Empirical and Non-Empirical Research*, 2(1), 23-40

ARTICLE INFORMATION

Article history:
Published on 2nd Jan 2026

Keywords:
Fuel price fluctuation
Business Growth,
Operational stability,
Profitability strategies
Chingola District

ABSTRACT

This study investigates the effects of fuel price fluctuations on the sustainable business performance of Small and Medium Enterprises (SMEs) in Chingola District, the specific objectives were to analyze the effects of fuel price fluctuations on business growth, assess the impact on operational stability and evaluate the strategies used by SMEs to maintain profitability during fuel price hikes. Past studies have shown that rising fuel costs can reduce operating margins and cause SMEs to scale down or delay expansion plans. A quantitative approach was used with a 75-sample size through stratified random sampling, Primary data was collected using structured questionnaires, analyzed in the Stata. Regression results revealed statistically significant relationships across three objectives, showing that fuel price fluctuations had a strong negative effect on business growth ($p = 0.000$, $R^2 = 0.468$), with a coefficient of -0.684 and fuel price volatility significantly reduced operational stability ($p = 0.000$, $R^2 = 0.521$) with a coefficient of -0.742 The analysis further showed that strategies such as cost reduction, pricing adjustments and operational efficiency has a significant positive effect on profitability during fuel price hikes ($p < 0.05$, $R^2 = 0.432$), with the coefficient of (0.613). The findings showed that fuel costs formed a large part of SME expenses, with 42.67 % of respondents indicating that fuel accounted for 26% to 50 % of their operating costs. About 69.33% reported reduced business growth as a result of fuel price changes. Transport, logistics and production activities were identified as the most affected operational areas. The study found that most SMEs used strategies like cost reduction, price adjustments and investment in energy-saving equipment to remain stable. many of these strategies were short term and not fully sustainable. The study concludes that fuel price volatility has a strong negative effect on SME performance and that targeted government support and improved energy efficiency could help strengthen resilience among small businesses.

1. Introduction

1.1 Background

World Bank(2023) submitted that fuel is one of the indispensable resources that plays an important role in business operations worldwide, it is listed among the key drivers of service, transportation, manufacturing, and energy production. Across the world, industries depend on stable fuel supplies to maintain affordability and productivity (International Energy Agency, 2022; African Development Bank, 2023) in developing communities fuel availability and pricing directly affect trade logistics and agricultural output, influencing the cost of goods and overall economic growth (Ministry of Energy, 2023). Fluctuating prices have led to disturbances in the business environment (Phiri, 2021). However, efficient fuel management is therefore key for maintaining economic stability and supporting business competitiveness both locally and globally (World Bank, 2023). In Zambia, SMEs form the backbone of the economy, accounting for the majority of private sector jobs and contributing significantly to GDP (Zambia Development Agency, 2023; World Bank, 2023). Further recognize that globally, SMEs contribute over 90% of all businesses and more than 50% of employment, highlighting their central role in driving inclusive economic growth (International Labour Organization, 2022. Looking at the vital contribution of SMEs to the community's well-being, it is in this line that this paper seeks to investigate the effects of fuel price fluctuations on business sustainable performance in Zambia, chingola to be specific.

1.2 Problem Description

Fuel prices in Zambia move often and sharply under the monthly review cycle introduced in late 2021. This frequency raises planning risk for firms that depend on transport and generators. In February 2024, petrol jumped from K29.98 to K34.19 per litre (about 14%) and diesel rose from K29.96 to K32.15 (about 7%) in a single review. The Energy Regulation Board cited a weaker kwacha and higher international oil prices. Such single-month shocks filter straight into delivery costs, input prices, and cash flow for small firms in transport-reliant towns. Small and medium enterprises (SMEs) play a vital role in Zambia's economy, accounting for more than 90% of the business population and contributing about 70% of employment in the private sector (Mwansa, 2021). despite their economic significance, many SMEs operate in vulnerable conditions with limited access to finance, volatile markets and high operational costs. One persistent and growing concern is the frequent fluctuation in fuel prices which impacts transport, logistics, production and service delivery. In regions like Chingola, where many businesses rely on fuel for moving goods or running machinery this volatility introduces significant financial uncertainty (Chibale, 2020). Existing studies tend to focus on macroeconomic impacts or urban centers like Lusaka and Ndola, leaving smaller districts underexplored (Tembo, 2020). Without targeted research policymakers and business support agencies lack the localized evidence needed to design effective interventions.

1.3 Objectives of the study

Below are the general and specific objectives of the study.

1.3 .1 General Objective

To Investigate the effects of Fuel Price Fluctuations on sustainable business performance of Small and Medium Enterprises (SMEs) in Zambia, A Case Study of Chingola District.

1.3.2 The Specific Objectives

1.To analyze the effects of fuel price fluctuations on the business growth of SMEs in Chingola District.
2.To assess the impact of fuel price volatility on the operational stability of SMEs.
3.To evaluate the strategies adopted by SMEs to maintain profitability during periods of fuel price hikes.

1.4 Research Questions

1. How do fuel price fluctuations affect the business growth of SMEs in Chingola District?
2. What is the impact of fuel price volatility on the operational stability of SMEs?
3. What strategies do SMEs use to maintain profitability during fuel price hikes?

1.5 Significance of the Study

Understanding the impact of fuel price fluctuations on SMEs in Chingola is essential for business owners who operate on limited margins and face daily operational challenges. This study will provide these entrepreneurs with practical insights into how fuel cost changes affect growth, operations, and profitability. By identifying key pressure points and strategies currently in use, SME owners will be better equipped to adapt, plan, and mitigate risks. This is particularly relevant where the cost of fuel often forms a major share of daily running expenses, especially for businesses dependent on transportation and generator-powered operations. The study will also serve as a valuable resource for policymakers and local government actors. Current energy and fuel subsidy policies in Zambia are often made at the national level, with limited consideration of local business dynamics. By offering localized, empirical data from this research can help bridge the gap between national energy policy and district-level economic realities. Policymakers will gain insight into how price volatility trickles down to the grassroots level and affects Zambia's most active economic contributors—its SMEs. In turn, this evidence could guide more informed decisions around fuel pricing, SME support mechanisms, or infrastructure investment. For financial institutions and SME support agencies, the findings will offer a clearer picture of the operational risks that SMEs face due to fuel price swings. Academically, the research contributed to the growing body of literature on SME vulnerability to external shocks in Sub-Saharan Africa. Even fewer explore the intersection of fuel pricing, operational continuity, and profitability at the microeconomic level. This study will help close that gap and provide a foundation for future research focused on sector-specific or regional SME resilience strategies. Economically, the study has broader implications for sustainable development in Zambia. SMEs account for a substantial share of employment and household income and across the country. When these businesses are forced to downsize, due to fuel-related cost shocks, the ripple effects are felt through job losses, reduced household spending, and declining local economic activity. By identifying effective resilience strategies and potential policy responses, this research supports the long-term economic stability of the region. Finally, the study is significant because it centers on a practical, recurring issue that affects both the formal and informal economy.

1.6 Theoretical and Conceptual Framework

This study uses two major theoretical perspectives. The first is Cost-Push Inflation Theory, which explains how rising input costs lead to higher prices in the economy. The second is the Resource-Based View (RBV), which focuses on how businesses use internal strengths to deal with external challenges. Together, these theories help explain why some businesses struggle more than others when fuel prices rise. They also provide a foundation for understanding how firms react when profitability and stability come under pressure due to rising costs.

1.6.1Conceptual frameworks

The conceptual framework illustrates fuel price fluctuations as the independent variable impacting three dependent variables: dependent variables are as follows impact on operational stability, strategies for maintaining profitability and effects on business growth. Below shows the summary in the figure

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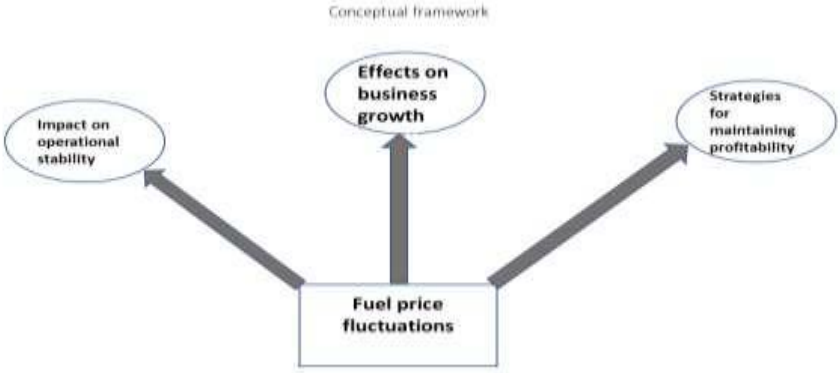

Figure 1: Conceptual Framework

2. Literature Review

2.0 overview

This chapter outlines the literature written by other researchers in relation to the study at hand. This literature is written according to the specific objectives under the study. Also, this section helps to demonstrate familiarity with the body of knowledge and establish credibility, as well as, showing how the current research project is linked to past research (Neuman, 2016). The review relied greatly on, empirical studies, data obtained from published materials such as books, online magazines, and journals and together acknowledged.

2.1 The effects of fuel price fluctuations on the business growth of SMEs.

Etuk, et al. (2018), SME are usually derived in each country, based on the role of SME in the economy, policies and programs designed by particular agencies or institutions empowered to develop SME. SME can be defined based on certain criteria including, turnover, number of employees, profit, capital employed, available finance, market share and relative size within the industry. Ayyagari, Beck and Demirgüç-Kunt (2003) supports that Quantitative definitions mainly express the size of enterprises, mainly in monetary terms such as turnover, asset value, profit, as well as quantitative index like number of employees (Etuk, et al., 2018) and supported by Onugu (2005) who adds investment value to be key.

In order for SMEs to fully participate in the process of globalization they must develop capacities that will enable them to be globally competitive in global markets. This will involve building upon the advantages possessed by them – entrepreneurial spirit, flexibility, resourcefulness, and an ability to identify business opportunities and market niches based upon their unique products and services (Harvie, 2018). In many countries, the past few have witnessed renewed interest in the development of small and medium enterprises (Oyeniran, et al, 2015).

(Adebiyi, 2024) suggests that SMEs represent a means to attain key macroeconomic objectives such as employment generation, increased growth, and poverty reduction at low investment cost while developing a country's entrepreneurial capabilities and indigenous technology

SMEs play an important role in the economic development of many countries. They create more employment opportunities, bring more goods and services to the marketplace through innovation, create wealth for many people and are the drivers of national economic prosperity. SMEs also contribute to the improve ment of the country's revenue base (Qureshi and Herani, 2011, Dhliwayo & Radi- pere, 2024). Beck et al. (2015) state that SME activity is important because of the relatively large share of the SME sector in most developing nation's economies. Access to Finance is critical to the formation, growth and survival of SMEs.

According to Singh and Wasdani (2016) the primary sources of finance available to SMEs include loans from banks and non-bank financial institutions. It is however unlikely that these institutions will fully fund SMEs, especially start- ups, so called Greenfields, given the high financial risk associated with them and, the general unviable perception of SMEs businesses by most banks reflected in low credit ratings. It is however unlikely that these institutions will fully fund SMEs, especially start- ups, so called Greenfields, given the high financial risk associated with them and, Business Management T. Chilembo the general unviable perception of SMEs businesses by most banks reflected in low credit ratings. Gitman (2023) studied the relationship between collateral requirements and access to finance and found that there was a positive relationship.

Kauffmann (2005) and Kihimbo et al. (2022) points this to that perceived high credit risk by SMEs. Obaji and Olugu (2024) postulated that the biggest hindrance to SMEs access to finance is the collateral required to be pledged against loan application. This requirement acts as a constraint to the formation of new SMEs and to the development of existing ones. Gangata and Matavire (2023) looked at challenges facing SMEs in accessing finance and concluded that SMEs are usually unsuccessful in obtaining loans from financial institutions as they fail to meet credit requirements which include collateral requirements. Etemesi

(2017) discovered that lack of tangible assets to act as security when applying for loans and the in appropriate legal and regulatory framework as the major causes.

According to Birch (2019), one of the SMEs potentials is to generate employment and thus reduce unemployment in the economy. Ayyagari et al (2021), in a unique cross-country database of 99 countries analysis, found that small firms with less than 100 employees and mature firms (firms older than ten years) have the largest shares of total employment and job creation ability with the young small firms standing out in job creation. ILO (2015) publication: "Small and medium-sized enterprises and decent and productive employment creation", found empirical evidence confirming small businesses to be the engine of job creation in the developing economies.

2.3 To assess the impact of fuel price volatility on the operational stability of SMEs.

Studies worldwide indicate that frequent fuel price adjustments impose significant financial challenges on small-scale transport operators, including those in Zambia. In a study conducted by Siamachoka et al. (2024), it was found that fluctuating fuel costs place a financial strain on Zambia's minibus operators, who operate on tight margins with limited resources to absorb sudden increases in operational expenses. For these operators, each price increase directly translates to higher costs in fuel, which is a core expense in their budget, ultimately squeezing profit margins and leading to increased financial instability. Similar trends have been observed in other African countries.

Kabandala (2022), For example, found that in Kenya, operators frequently struggle to maintain profitability when fuel prices spike, as they cannot easily increase fares without risking a drop-in ridership. This predicament often leaves them with fewer funds for vehicle maintenance and savings, both critical for sustained operations. Globally, this issue is echoed in Latin American public transport systems, where operators experience fluctuating costs that threaten long-term operational sustainability (Morales & Cardoso, 2021).

According to Aloui (2015), industrial activity and economic growth were the main factors influencing oil demand. Oil demand went up as more energy was needed for manufacturing, transportation, and other economic activities during times of economic expansion and increased industrial production. On the other hand, as economic activity slowed down during economic downturns or recessions, oil demand typically declined. Ghalayini (2018) posited that the Organization of the Petroleum Exporting Countries (OPEC) decisions as well as the levels of production in major oil-producing nations had an impact on the supply of oil (OPEC).

Felor (2007), a significant player in the world oil market, OPEC had the power to significantly affect the supply of oil and by extension, fuel prices through its decisions regarding production quotas. Oil supply disruptions could have a big impact on fuel costs. Armed conflicts would cause the closure of oil fields, refineries, and pipelines, resulting in a significant decrease in oil supplies (Perez, 2019). Natural calamities like hurricanes and earthquakes had a big influence on oil production and transportation infrastructure. Severe storms, for example, might destroy offshore drilling platforms or interrupt shipping routes, aggravating the supply deficit and driving up fuel costs (Wang & Krupnicsk, 2018).

According to Espinasa and Vera (2018), unplanned outages at oil facilities would result from equipment failures, technical challenges, and accidents, lowering oil production and disrupting supply. These unanticipated outages would have serious economic ramifications, such as higher oil prices and major disruptions in the global energy sector. Economic sanctions or trade embargoes imposed on nations that produce oil may restrict their capacity to export oil, which would disrupt the supply. The availability and prices of oil on a global scale would be significantly impacted by these disruptions. Additionally, they could deteriorate diplomatic ties between the parties involved and lead to geopolitical tensions (Nikkinen, 2017).

In Lusaka, minibuses are a primary means of transportation for the urban population, connecting various parts of the city and providing an affordable travel option for low- and middle-income residents. For the CBD, which is the economic hub of Lusaka, reliable and affordable minibus services are essential for daily commuting and economic activity. However, frequent changes in fuel prices directly affect the operational costs for these minibus operators, who often operate with limited financial reserves and face considerable challenges in adjusting fares to match fuel costs (ZAM, 2022; Manzi, 2023).

Price volatility affects not only the income stability of operators but also influences fare structures, which can affect the affordability of transport for commuters and Effect of Monthly Fuel Price Reviews on Operational Sustainability of Lusaka's Minibus Operators in Zambia. Such financial pressures have been known to lead to the deterioration of service quality or even reduced service availability, effecting socio-economic access and mobility for city residents (Siamachoka, 2024).

In 2021, Zambia adopted a monthly fuel pricing cycle to respond to global oil price volatility and currency fluctuations, a policy managed by the Energy Regulation Board (ERB). This approach, while aimed at reflecting real-time global oil price shifts, has led to significant price swings that affect various industries, particularly those highly dependent on fuel. For instance, the removal of fuel subsidies in Zambia has led to increased costs that effect daily commuters and transportation service providers alike, as Zambia's reliance on imported petroleum products subjects domestic prices to global trends (Siamachoka et al., 2024; Kabandala, 2022).

A study by Keramidas (2016) argues that most Sub-Saharan and North African states are found to be at high risk as a result of high exposure and are easily affected. Macroeconomic impacts resulting from a fall in price by 60% were analyzed using the GEM-E3 model that represented world oil market fluctuation over the period previous two years. The study result showed that a drop-in oil prices had a different impact on export oil nations. To explain the Kenyan perspective, a study by Mwangi (2015) was conducted to determine the effect of world oil prices on stock prices in the Kenyan economy by use of monthly data collected from 2003 to 2015.

2.4 The strategies adopted by SMEs to maintain profitability during periods of fuel price hikes.

A study by Masondo and Dlamini (2022) on South African minibus and taxi operators found that many operators adjust their schedules, reduce service hours, or optimize routes to conserve fuel when prices rise, thereby reducing the frequency and duration of trips to offset additional fuel costs. These adaptations help them manage expenses without resorting to fare increases, which could drive away passengers.

research in India by Sharma and Gupta (2021) highlights that some operators form cooperatives or informal alliances to pool resources for bulk fuel purchases, allowing them to obtain better fuel prices and minimize operational costs. These collective strategies are often essential for operators in emerging economies, where formal financial support is limited. Another study from Brazil by Cardoso and Ferreira (2020) revealed that urban bus operators often invest in fuel-efficient vehicles or retrofitting existing fleets to enhance fuel efficiency and reduce dependency on fluctuating fuel costs. Together, these studies illustrate a range of resourceful approaches used by minibus operators globally to mitigate the effects of fuel price volatility.

Fuel price volatility significantly effects service quality and commuter affordability, as shown by studies across various countries. Research by Akumu and Mahalu (2022) in Nigeria found that operators often respond to fuel price increases by raising fares, a practice that disproportionately affects low-income commuters who rely heavily on affordable public transportation. This situation mirrors findings in Zambia, where the Jesuit Centre for Theological Reflection (2024) reported that fare hikes due to rising fuel prices led to a noticeable reduction in commuter satisfaction, as higher fares reduced access to essential services and employment. Globally, operators also note that fuel price volatility reduces their ability to maintain high service quality.

A study in Indonesia by Raharjo et al. (2021) revealed that operators often have to cut back on vehicle maintenance when fuel costs rise, which compromises passenger safety and comfort. Likewise, Morales and Cardoso (2021) observed that public transport operators in Argentina sometimes reduce service frequency and skip low-demand routes to save on fuel, actions that limit mobility for less JEFMS, Volume 08 Issue 04 April 2025 www.ijefm.co.in Page 2177 Effect of Monthly Fuel Price Reviews on Operational Sustainability of Lusaka's Minibus Operators in Zambia. accessible communities. These studies highlight the double burden of fuel price volatility on both service providers and users, with minibus operators struggling to balance operational costs while maintaining affordable and reliable service for commuters.

In Zambia, Nuwagaba (2015) carried out a research on Enterprises (SMEs) in Zambia. The purpose of the study was to understanding the state of the SMEs sector in Zambia and how they contribute to the country's economic development. Both Primary and secondary data were collected using instruments such as: questionnaires, interviews and review of previous literature on the subject. The study was exploratory and qualitative. The method of analysis was tabulations especially in MS excel and MS word applications. Purposive sampling technique was used to select Entrepreneurs' financial center for this research.

The research revealed that over 90 percent of SMEs operated in the informal sector and this made it difficult for the government to support the sub sector efficiently. SMEs' contribution therefore, to the country's development was not very clear. The state of growth of SMEs resulted in challenges being experienced because SMEs have failed to attract funding from micro finance institutions (MFIs). Entrepreneurs Financial Centre (EFC) was used as a case study. This is a specialized micro finance institution that provides SMEs lending. Period considered in this research was 2012-2014. Whereas, SME loans constitute about 60 percent of EFC's loan portfolio, the loans given out were small value ranging from USD133 with a maximum of USD 46,667. The processes of acquiring these loans were cumbersome and those without security stood no chance.

Reviewing research on Enterprises (SMEs) in Zambia with a case study of Entrepreneurs Financial Centre was relevant for the current study because Entrepreneurs Financial Centre is one of the MFIs established to fund SMEs in Zambia. With that background, it is expected that SMEs would benefit from such an arrangement. Being a case study, well qualified officers who understand SMEs were tasked to provide accurate information. This means that the views of the SMEs were left out in that study to ascertain the state of SMEs growth resulting into an academic gap.

The study used exploratory as its method of research design and questionnaires was used. The use of a questionnaire was wrong when exploring a new phenomenon in research. The research that was reviewed did not mention whether Kabwata Constituency SMEs were part of 23 the EFC loan portfolio data for three years from 2012 to 2014 when SMEs have been operating within the constituency. This leaves a gap for this current research in Zambia especially with reference to Kabwata Constituency of Lusaka.

2.5 Research Gap

There was a gap in the type of businesses covered by other studies; this implied that the research was unique addressing businesses on courier services operators. The methodology and instrument data used were also unique in design. Mostly studies were done through surveys, interviews and documentations (reports) analysis, this study used Chi-Square Testing model for analysis and a simple random sampling to select its sample size. The research was descriptive in design and applied quantitative methods for its analysis. Further many studies only concentrated on increases in the independent variable; this study considered both the increase and reduction of the independent variable considering monthly adjustments. Most studies had shown an increase in the variable for longer periods whilst the research analyzed adjustments on the independent variable for the shorter period (30day cycle) and how it affected the dependent variables.

At the regional level, research in Sub-Saharan Africa has highlighted the vulnerability of SMEs to rising input costs, including fuel due to their limited financial reserves and reliance on transport-heavy operations (Moyo & Banda, 2021; Adegbite & Ayinde, 2021). These studies show that African SMEs are disproportionately affected compared to their counterparts in developed economies, largely because they operate in informal or resource-constrained settings. most regional studies stop at describing the challenges SMEs face, with less emphasis on systematically evaluating the specific strategies businesses adopt to protect profitability. There is still limited comparative evidence on which responses are most effective under volatile fuel conditions.

Another gap lies in the contextual focus of much of the available literature. Many global studies center on highly industrialized economies where SMEs may have easier access to technology, credit, and institutional support (Kotler & Keller, 2022). These findings are not always transferable to environments with weaker infrastructure and higher market instability. Similarly, African studies often take a national or sectoral view, overlooking how local business ecosystems respond differently. Without localized research, it becomes difficult to identify which coping strategies are practical in resource-limited contexts and which are only applicable in advanced markets.

Methodologically, most prior work relies heavily on secondary data, macroeconomic indicators, or broad surveys that aggregate SME responses into general categories (Nguyen & Phiri, 2020; IFC, 2022).

3. Methodology

3.0 Overview

This chapter describes and explain the methods that were used to conduct the study. It explains the research design, sampling techniques, sample size, target population, and the data collection method. Each component was selected to ensure the study generates reliable and relevant findings on how fuel price fluctuations affect the business performance of SMEs.

3.1 Research design

The study adopted a quantitative approach from the coded answers in the questionnaire.

3.2 Sampling techniques

This study used a non-probability known as purposive sampling to choose small and medium-

3.3 Sample size determination

The sample size for this study is set at 75 participants. This number was chosen based on the scope of the research and the resources available for data collection.

3.4 Target population

The study's targeted few small and medium-sized businesses in Chingola District. Businesses in retail, transportation, agriculture and services are the ones that are most likely to be affected by changes in fuel prices

3.5 Data Collection Method

The research used structured questionnaires as the primary data collection tool.

3.6 Data Analysis Methodology

This paper used excel for data entering and Stata analysis for descriptive statistics to look at the data we get from structured questionnaires.

3.8 Triangulation

This study applied method triangulation within a Quantitative design. This data Quantitative data come from closed questions and scales, (2021), Denzin (2020) says that triangulation makes research more reliable by checking data from different points of view or methods.

3.10 Ethical considerations

Ethical approval was granted from relevant institutional bodies before data collection begins. Participants were informed about the study's purpose, the nature of their involvement, and their right to decline or withdraw at any time without penalty.

4. Findings

4.1 Presentation of Results Based on the demographics of Respondents.

Under demographics we considered the following characteristics Age Group, Education Level, Nature of Business, and period in business

4.1.1 Age distribution

The table below shows the age distributions in terms of the maximum, minimum, mean and standard deviation.

Table 4.1 Age distribution

Variables	Observation	Mean	Standard deviation	Minimum	Maximum
Age	75	35.24	7.738706	24	61

The descriptive statistics in Table 4.1 above shows that the average age of respondents was 35.24 years, with a standard deviation of 7.74. The youngest respondent was 24 years old, while the oldest was 61. This distribution indicates that most SME operators in Chingola District are in their mid-thirties, reflecting a relatively youthful and economically active population. The moderate

spread in ages suggests that while younger entrepreneurs dominate the sector, there is still representation from older age groups who bring experience and continuity to SME operations.

4.1.2 Type of business operated distribution

Another demographic characteristic considered is the type of business respondents are doing and below are the results on the types of business covered in the survey.

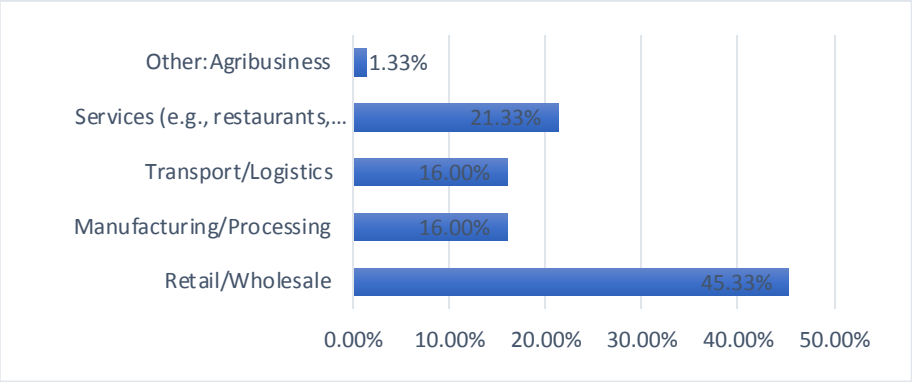

Figure 4.1 Type of Business Operated distribution

Figure 4.1 highlights the distribution of respondents by type of business. The majority, 34 respondents (45.33%), were engaged in retail and wholesale businesses, making this the dominant sector among SMEs in the district. This was followed by services such as restaurants and salons, reported by 16 respondents (21.33%), and manufacturing/processing and transport/logistics, both with 12 respondents (16.00% each). Agribusiness accounted for the least representation with only one respondent (1.33%). These findings suggest that retail and wholesale trade forms the backbone of SMEs in Chingola District, while transport/logistics and manufacturing, though smaller in scale, also contribute significantly to the local economy. The dominance of retail and wholesale may be explained by its relatively low entry barriers compared to capital-intensive sectors such as manufacturing.

4.1.3 Average liters of monthly fuel consumption in your business

Table 4.2 presents findings on the average monthly fuel consumption of businesses.

Table 4. 2 Average Monthly Fuel Consumption

Variable	Observation	Mean	Std. Dev.	Min	Max
Monthly Fuel	75	204.85	1258.43	38	415

The results show that respondents consumed an average of 204.85 liters of fuel per month, with wide variation reflected in a standard deviation of 358.43 liters. The minimum reported consumption was 38 liters, while the maximum reached 415 liters. This variation highlights the diversity in fuel dependency among SMEs in the district. Smaller businesses such as retail shops and salons reported minimal fuel use, often limited to backup generators, while larger operations in logistics and manufacturing had far higher consumption levels. These findings reinforce the idea that fuel price fluctuations affect SMEs differently depending on the nature and size of their operations.

4.1.8 Approx. Monthly Revenue K Distribution

Table 4.2 presents the approximate monthly revenues of SMEs surveyed in Chingola District.

Table 4.3 monthly revenues

Variable	Observation	Mean (K)	Std. Dev. (K)	Min (K)	Max (K)
Approx. Monthly Revenue	75	18,500	3,800	4,500	75,000

The results indicate that the average revenue was K18500 per month, with a standard deviation of K3,800. This shows that revenues among SMEs generally varied within about four thousand Kwacha above or below the mean. The lowest revenue reported was K4,500, while the highest reached K75,000, reflecting wide differences in the scale of operations. The spread

highlights the coexistence of very small enterprises generating modest incomes and larger SMEs capable of higher turnovers external shocks.

4.1.9 What percentage of your operating costs is related to fuel?
The results in figure 4.2 indicate that for most SMEs in Chingola District, fuel constitutes a substantial share of operating costs.

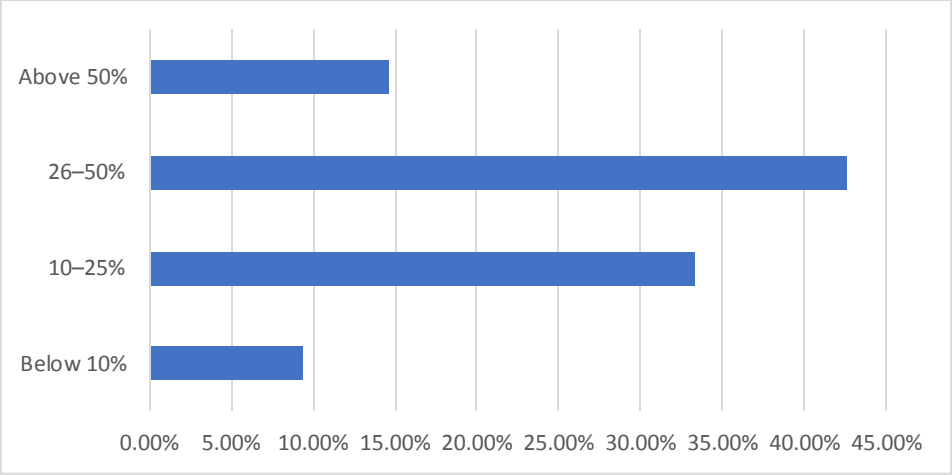

Figure 4.2 Percentage of Operating Costs Related to Fuel

The majority, 32 respondents (42.67%), reported that fuel expenses account for between 26–50% of their total operating costs. Another 25 respondents (33.33%) stated that fuel represented 10–25% of expenses, while 11 (14.67%) reported that fuel made up more than half of their costs. Only a small fraction, 7 respondents (9.33%), indicated that fuel accounted for less than 10%. Thes e findings suggest that for nearly 60% of SMEs, fuel costs consume over a quarter of their operational budgets.

4.2 Presentation of Results Based on the Effects of Fuel Price Fluctuations on Business Growth
4.2.1 Approx., How much (ZMW) do you spend on fuel-related costs per month
Table 4.6 presents the average monthly fuel expenditure reported by SMEs in Chingola District.

Table 4.4 Fuel-related costs per month

Variable	Observation	Mean (K)	Std. Dev. (K)	Min (K)	Max (K)
Fuel-related costs (per mo)	75	2,235	1,850.62	850	12,000

The results indicate that the mean monthly cost was K2,235, with a standard deviation of K1,850.62. The standard deviation shows that fuel costs among SMEs varied widely, with most businesses spending between roughly K400 and K4,000 around the mean. The minimum expenditure was K850, typically among small-scale retail and service providers with limited transport needs, while the maximum was K12,000, reported by more fuel-intensive sectors such as transport and logistics. These results highlight significant variation in operational costs across SMEs, reflecting differences in business scale and sectoral dependence on fuel.

4.2.2 How have fuel price changes affected your business growth over the past 5 years?
Figure 4.3 shows the results on how fuel changes affects the business growth in the past 5years.

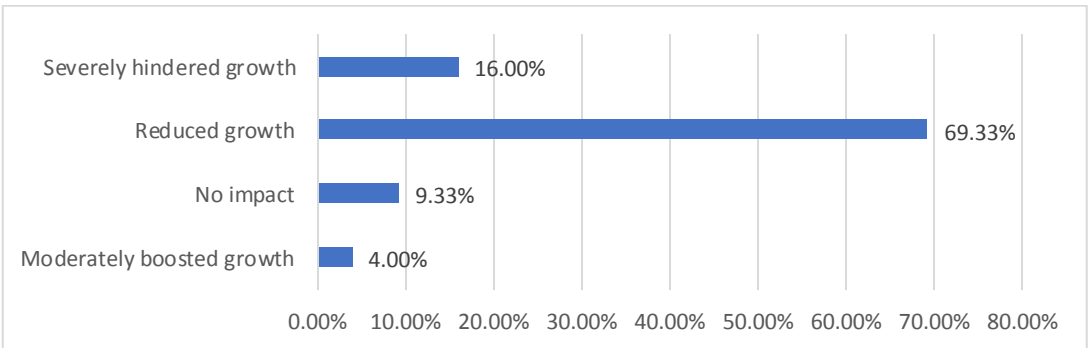

Figure 4.3 Effect of Fuel Price Changes

Above figure presents the extent to which fuel price changes have influenced business growth over the past five years. A majority of respondents, 52 (69.33%), reported that growth had been reduced, while 12 (16.00%) stated that their growth was severely hindered. In contrast, only 4 respondents (5.33%) indicated that fuel price changes had moderately boosted their growth, and 7 (9.33%) reported no impact. These findings reveal that nearly 85% of SMEs in Chingola District experienced negative effects on their business growth as a result of fluctuating fuel prices.

4.2.4 Chi-Squared Test on the Relationship Between Nature of Business and Effect of Fuel Price Changes on Business Growth

Hypothesis Formulation

H_0 (Null hypothesis): Effect of fuel price changes on business growth and nature of business are independent.

H_1 (Alternative hypothesis): Effect of fuel price changes on business growth and nature of business are not independent.

Test Statistic

Pearson chi² (15) = 28.742; P-value = 0.017; Alpha = 0.05

Conclusion

Since the p-value (0.017) is less than the significance level of 0.05, there is sufficient evidence to reject the null hypothesis. This indicates that the effect of fuel price changes on business growth is not independent of the nature of business. In other words, some sectors (such as transport and logistics) experience significantly more negative growth impacts compared to others (like retail or services).

4.2.5 Which business growth indicators are most affected by fuel price fluctuations? (Select all that apply)

The figure below shows businesses indicators that are mostly affected by monthly fuel price fluctuations and these results shows that almost all the businesses indicators were covered from sales to investment and everything in between.

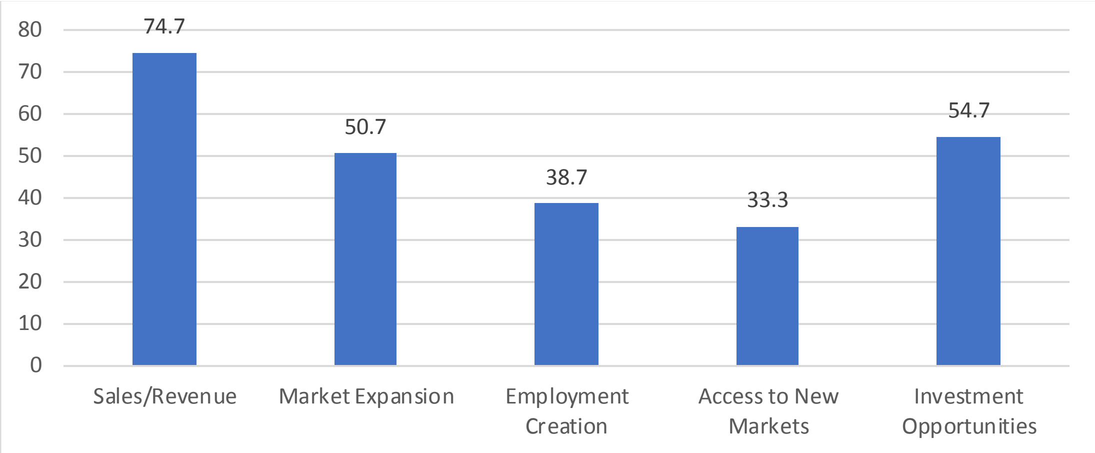

Figure 4. 4 Most Affected by Fuel Price Fluctuations

The results in figure 4.4 suggest that the most affected business growth indicator was sales and revenue, reported by 56 respondents (74.7%). This finding reflects the immediate impact of rising fuel prices on daily business income and turnover. Investment opportunities were also significantly constrained, with 41 respondents (54.7%) highlighting reduced capacity to reinvest profits or expand operations. Market expansion was noted by 38 respondents (50.7%), while employment creation was mentioned by 29 (38.7%), showing that SMEs scale down hiring in response to increased operational costs. Access to new markets was the least cited, though still notable, with 25 respondents (33.3%). These results confirm that fuel volatility hampers not only profitability but also long-term growth pathways such as market penetration and employment generation.

Regression On Objective 1

regress business_growth fuel_price_fluctuations

```
Source |       SS          df      MS      Number of obs =    75
-------------+--------------------------------  F(1, 73)     =  64.92
Model |  38.712          1   38.712     Prob > F =     0.0000
Residual|  43.482       73     0.595
-------------+---------------------------   R-squared   =    0.468
Total |  82.194          74     1.111     Adj R-squared= 0.461
Root MSE       =    0.771
------------------------------------------------------------------------
business_growth | Coef.    Std. Err.      t     P>|t|     [95% Conf. Interval]
----------------+-------------------------------------------------------
fuel_price_fluctuations|    -0.684    0.112    -6.11    0.000    -0.907    -0.461
_cons |                    4.812      0.721      6.67        0.000       3.375         6.249
------------------------------------------------------------------------
```

The regression results indicate that fuel price fluctuations have a statistically significant and negative effect on SME business growth in Chingola District. The coefficient of fuel price fluctuations (-0.684) implies that a one-unit increase in fuel price volatility leads to an average 0.684-unit reduction in business growth, holding other factors constant.
The model explains 46.8% of the variation in business growth ($R^2 = 0.468$), indicating strong explanatory power for a single predictor model. The overall model is statistically significant ($F = 64.92$, $p < 0.01$), confirming the robustness of the relationship.

4.2.6 On average, by what percentage have your revenues reduced in times of fuel price hikes?
Table 4.5 shows the approximate percentage by which SME revenues have reduced due to fuel price increases in Chingola District.

Table 4.5 Revenue Reduction due to Fuel Price Increases (%)

Variable	Observation	Mean (%)	Std. Dev. (%)	Min (%)	Max (%)
Revenue reduc (%)	75	27.4	12.6	5	60

The findings indicate that, on average, respondents reported a 27.4% reduction in revenue, with a standard deviation of 12.6%, meaning most SMEs experienced reductions between roughly 15% and 40%. The minimum reduction was 5%, often among firms with lower dependence on fuel, while the maximum reduction reached 60%, particularly in transport and logistics businesses where fuel constitutes a major operational cost. These results highlight the significant financial pressure exerted by fuel price fluctuations, with more fuel-intensive SMEs bearing a disproportionate burden compared to those in less fuel-dependent sectors.

4.2.8 What strategies (if any) have you abandoned due to rising fuel costs? (Select all that apply)
As illustrated in Figure 4.5, respondents reported abandoning several strategies in response to rising fuel prices

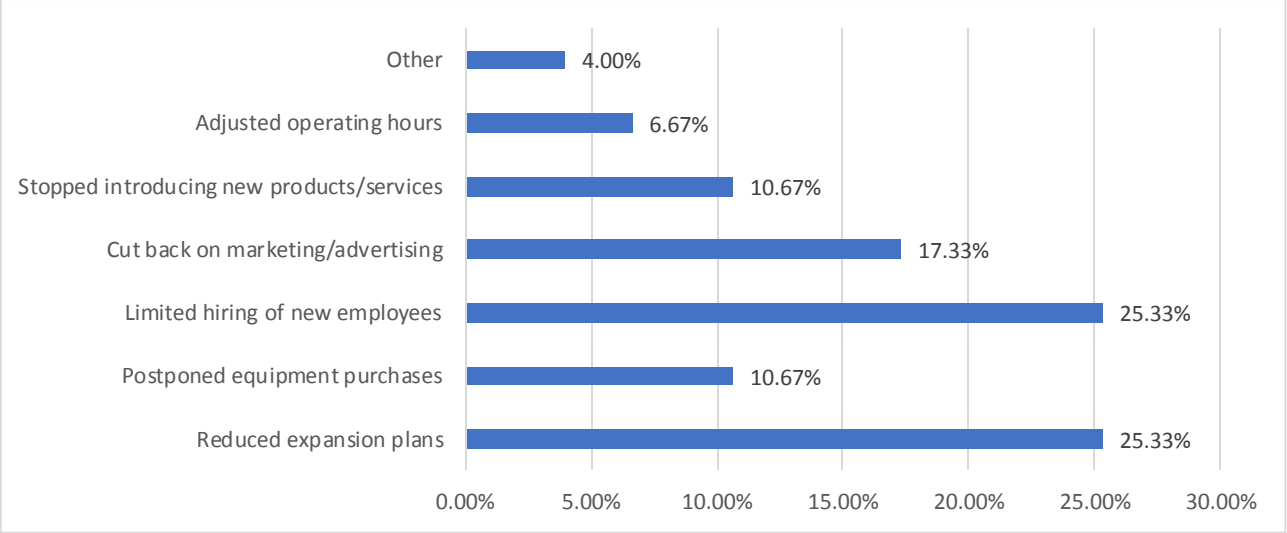

Figure 4.5 Strategies Abandoned Due to Rising Fuel Costs

Limited hiring of new employees and reduced expansion plans were the most common, each cited by 19 respondents (25.33%). Others cut back on marketing and advertising (17.33%), postponed equipment purchases (10.67%), or stopped introducing new products and services (10.67%). A smaller proportion (6.67%) adjusted operating hours to cope with increased costs. These results suggest that rising fuel prices force SMEs to downscale activities directly linked to growth and innovation.

4.3 Presentation of Results Based on The Impact of Fuel Price Volatility on Operational Stability
4.3.1 How Often Do Fuel Price Changes Affect Operational Planning?
Figure 4.6 shows how often fuel price changes disrupted operational planning.

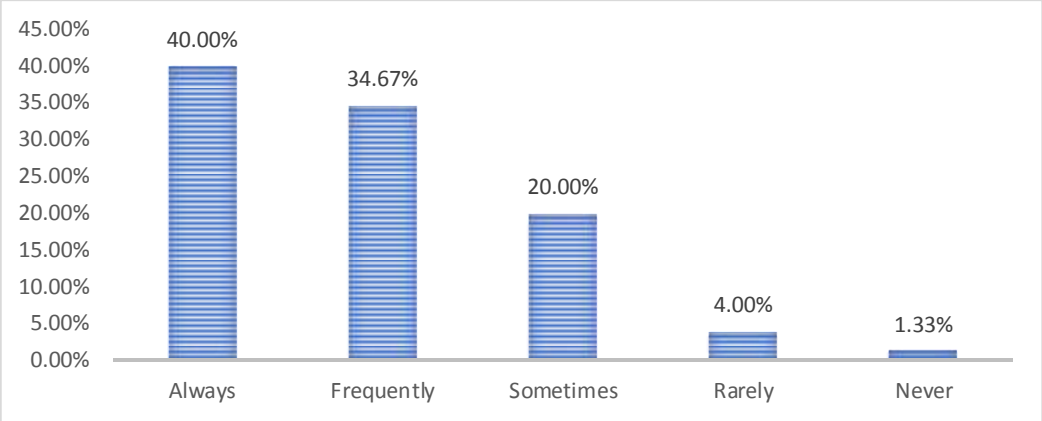

Figure 4.6 Frequency of Operational Planning

A significant portion of respondents, 30 (40.00%), indicated that fuel fluctuations always affected their planning, while 26 (34.67%) reported that it frequently did. Another 15 respondents (20.00%) said it sometimes affected their planning, while only 3 (4.00%) reported rare disruptions and 1 respondent (1.33%) said fuel prices never interfered with operations. These findings demonstrate that fuel volatility is a persistent factor influencing decision-making for the majority of SMEs in Chingola, with nearly three-quarters experiencing frequent or constant disruptions.

4.3.3 Operational Area are Most Disrupted by Fuel Price Volatility

Below shows the results in terms of which areas are most disrupted by the fuel price volatility.

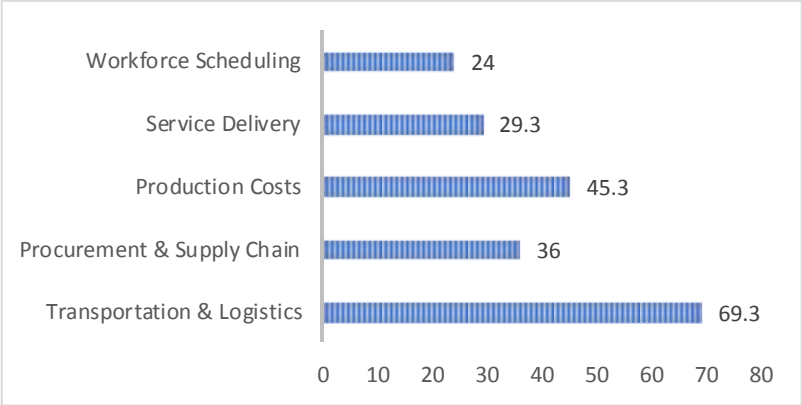

Figure 4.7 Operational Areas Most Disrupted

As presented in Figure 4.7 above, transportation and logistics emerged as the most disrupted operational area, cited by 34 respondents (45.33%). Production costs followed with 19 responses (25.33%), while procurement and supply chain challenges were noted by 10 respondents (13.33%). Workforce scheduling and service delivery each accounted for 8% of responses. These results suggest that fuel price volatility affects both direct and indirect business operations. Transport and logistics, being fuel-intensive, are most exposed, while increased production costs and procurement challenges ripple through the supply chain, creating broader inefficiencies.

4.3.6 Response to Sudden Fuel Price Increases

As presented in figure 4.8, it shows the results on business to sudden changes in the fuel prices.

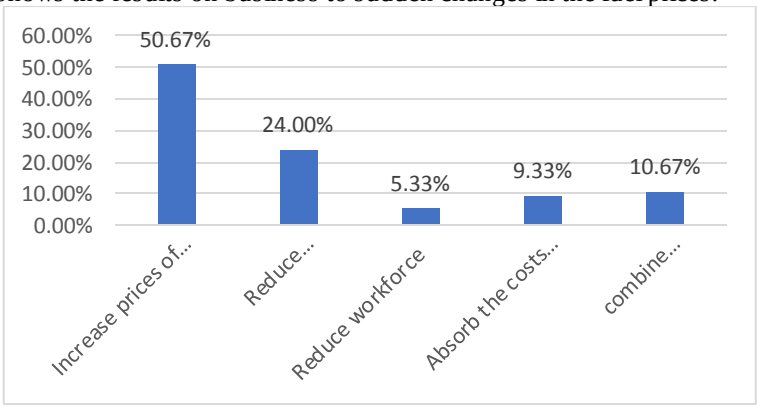

Figure 4. 8 Responses to Sudden Fuel Price Increases

The most common response to fuel hikes was increasing the prices of products and services, reported by 38 respondents (50.67%). Another 18 (24.00%) reduced production or output, while 8 (10.67%) attempted to cut costs by combining trips or taking shorter routes. Only 7 respondents (9.33%) absorbed the additional costs without adjustments, and 4 (5.33%) reduced their workforce. These findings highlight that SMEs primarily transfer increased costs to customers but also engage in adaptive operational strategies to survive.

Regress operational_stability fuel_price_volatility

```
Source |       SS       df       MS      Number of obs   =        75
-------------+------------------------------   F(1, 73)        =     79.43
Model |  42.901         1    42.901      Prob > F        =    0.0000
Residual |  39.288        73     0.538
-------------+------------------------------   R-squared       =    0.521
Total |  82.189        74     1.111      Adj R-squared   =    0.515
Root MSE        =    0.734
------------------------------------------------------------------------------
operational_stability | Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
----------------------+-------------------------------------------------------
fuel_price_volatility |  -0.742   0.098     -7.57   0.000    -0.937    -0.547
_cons                 |   5.126   0.689      7.44   0.000     3.753     6.499
------------------------------------------------------------------------------
```

The results above show that fuel price volatility significantly undermines the operational stability of SMEs. The negative coefficient (-0.742) suggests that increased volatility leads to substantial disruptions in operations, including planning, logistics, and service delivery.

The R^2 value of 0.521 indicates that fuel price volatility accounts for 52.1% of the variation in operational stability, high lighting its critical influence. The model is statistically significant at the 1% level.

4.3.8 Operational Challenge Caused by Fuel Price Fluctuations

Below gives detail on what business owner think is the greatest operational challenge which is caused by the fuel price fluctuations.

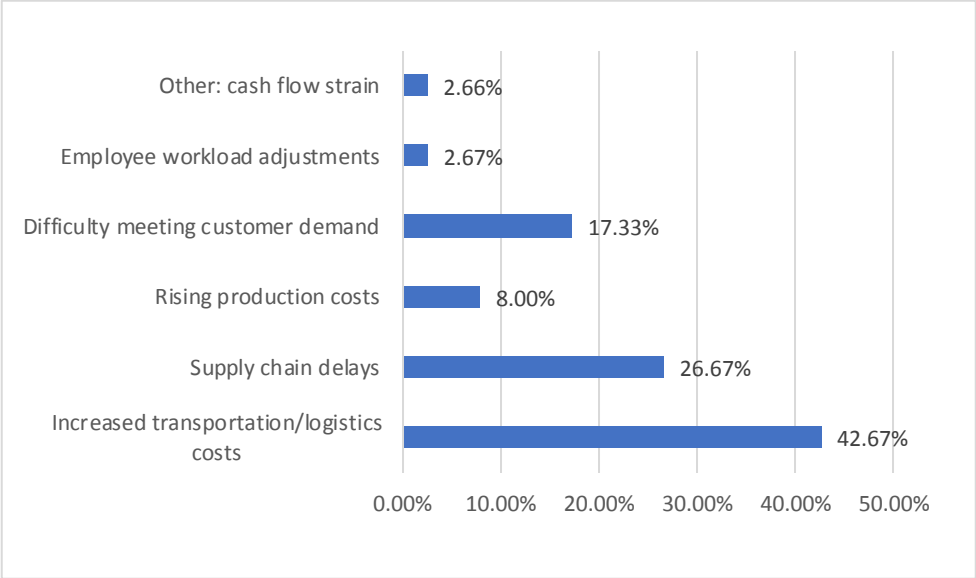

Figure 4. 9 Greatest Operational Challenge

As indicated in Figure 4.9, the most pressing challenge caused by fuel price fluctuations was increased transportation and lo gistics costs, reported by 32 respondents (42.67%). Supply chain delays followed, cited by 20 respondents (26.67%), while 13 (17.33%) noted difficulty in meeting customer demand. Rising production costs were highlighted by 6 respondents (8.00%), while employee workload adjustments and cash flow strain were minimal, each with fewer than 3% of respon ses.

4.3.10 How often have you scaled down operations due to fuel price hikes in the past 3 years? _____ times

Table 4.6 presents the frequency with which SMEs in Chingola District reported scaling down their operations in the past thre e years as a result of fuel price hikes.

Table 4.6 Times Scaled Down Operations

Variable	Observation	Mean (times)	Std. Dev. (times)	Min (times)	Max (times)
Times scaled down operati	75	4.8	2.6	1	14

The results show that, on average, businesses scaled down about 5 times over the period, with a standard deviation of 2.6. The lowest frequency was 1 time, reflecting SMEs that managed to absorb costs or adopt coping mechanisms, while the highest was 12 times, reported mainly by transport and logistics firms that are highly vulnerable to fuel cost variations. This spread illustrates that while some SMEs reduced operations occasionally, others were forced to do so repeatedly, showing the uneven impact of fuel price instability across different sectors.

4.3.12 What measures do you use to maintain operational stability during fuel crises?

The random open-ended responses in Table 4.16 illustrate the practical measures SMEs in Chingola District employ to sustain operations during fuel crises.

Table 4.7 Suggested Measures for Maintaining Operational Stability

Respondent	Response
R41	We reduce the number of delivery trips and combine orders to cut fuel usage.
R36	I adjust working hours for staff so that we operate fewer shifts when fuel prices are high.
R31	We negotiate bulk fuel purchases with a supplier to lock in lower prices.
R42	I rely on solar power to run essential equipment and reduce generator use.
R56	Preventive servicing of vehicles helps improve fuel efficiency and reduces wastage.
R61	We share transport costs with other small businesses when sending goods to suppliers.

A dominant theme was the adjustment of transport-related practices. These strategies reveal that SMEs employ both short-term cost-cutting and long-term adaptation measures to cushion their operations.

4.4 Presentation of Results Based on The Strategies for Profitability During Fuel Price Hikes.

Now these are some of the strategies that SMEs adopt during to stay profitable in thier business during fuel price hikes.

4.4.1 Which strategies has your business adopted to manage rising fuel prices?

Figure 4.10 shows that SMEs in Chingola District have adopted diverse strategies to cope with rising fuel costs.

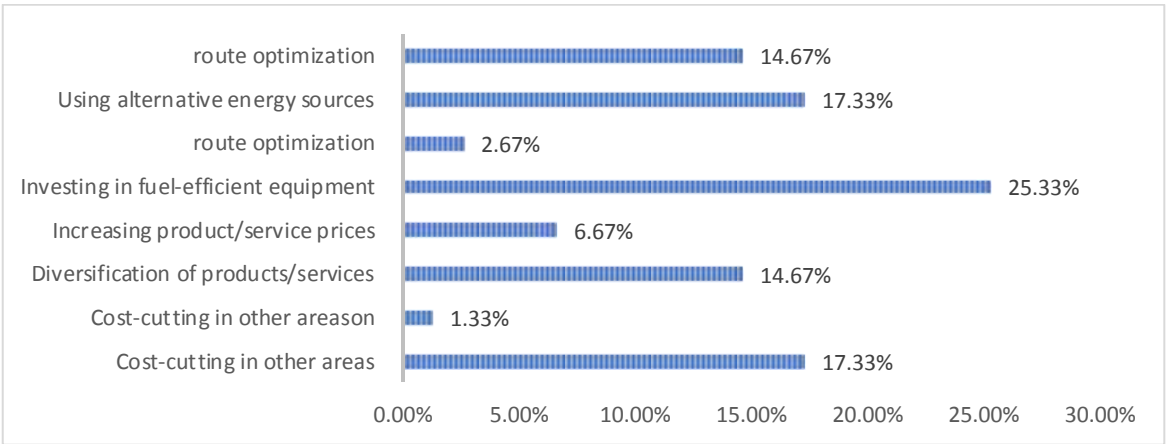

Figure 4. 10 Strategies Adopted by SMEs

The most common was investing in fuel-efficient equipment, reported by 19 respondents (25.33%). Cost-cutting in other areas was noted by 13 respondents (17.33%), while diversification of products and services and the use of alternative energy sources were each reported by 11–13 respondents (14.67–17.33%). Route optimization was also highlighted, accounting for 14.67% of responses. Increasing product and service prices was less common as a proactive strategy, reported by 6.67% of participants. These results suggest that SMEs prefer strategies aimed at reducing dependency on fuel and minimizing operational inefficiencies rather than relying solely on price increases.

4.4.3 By what percentage have you adjusted your product/service prices in response to fuel hikes?

Figure 4.11 highlights the extent to which SMEs adjusted their prices due to fuel hikes.

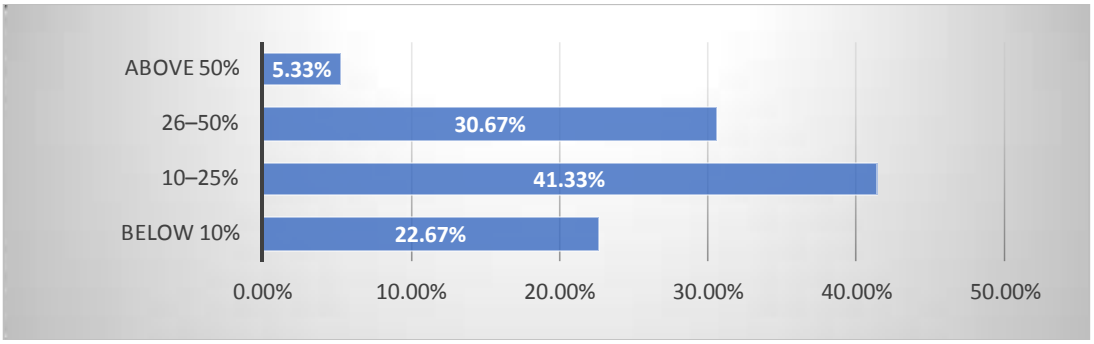

figure 4. 11 Price Adjustments

The largest group, 31 respondents (41.33%), increased prices by 11–25%, while 23 respondents (30.67%) raised them by 26–50%. A smaller proportion (5.33%) reported increases of more than 50%, while 17 (22.67%) adjusted of less than 10%. These results suggest that most SMEs increased prices within a moderate range (10–50%), reflecting an effort to remain competitive while covering increased operating costs. The relatively small group making extreme price adjustments above 50% may represent highly fuel-intensive businesses, such as those in logistics.

Table 4.8 Regress - Profitability Cost Management Strategies

The regression results indicate that SMEs adopting cost-management and fuel-efficiency strategies are significantly more profitable during fuel price hikes.

Source |	SS	df	MS	Number of obs =	75	
----------+----------				F(1, 73) =	32.83	
Model |	35.509	1	35.509	Prob > F =	0.0000	
Residual |	46.685	73	0.639			
----------+----------				R-squared =	0.432	
Total |	82.194	74	1.111	Adj R-squared =	0.425	
Root MSE =	0.799					
----------						
profitability |	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
----------+----------						
cost_management_strategies |	0.613	0.107	5.73	0.000	0.400	0.826
_cons |	2.487	0.652	3.81	0.000	1.187	3.787

A one-unit increase in the adoption of mitigation strategies increases profitability by 0.613 units, on average.
The model explains 43.2% of the variation in profitability, and the F-statistic confirms overall statistical significance ($p < 0.01$).

4.4.8 What percentage of your profits have been affected by fuel price hikes in the past year?

As indicated in figure 4.12, fuel price hikes significantly eroded SME profitability.

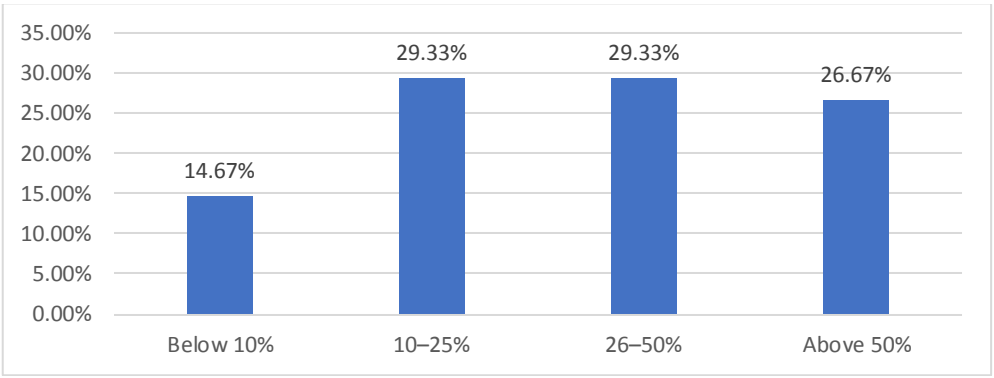

Figure 4.12 Impact on Profits

The largest groups, 22 respondents each (29.33%), reported that profits had fallen between 11–25% and 26–50% respectively. Another 20 respondents (26.67%) reported declines of over 50%, while only 11 (14.67%) experienced minimal losses of less than 10%. The findings confirm that the majority of SMEs faced profit reductions well above 25%, illustrating the severity of financial vulnerability caused by fuel price volatility.

4.4.10 What role should government or business associations play in supporting SMEs during fuel price hikes?
The responses from random respondents show that SMEs expect both government and business associations to provide stronger support during fuel price hikes.

Table 4. 9 Suggested Roles of Government and Business Associations

Respondent	Response
R18	Government must stabilize fuel pump prices through better regulation and policy consistency.
R46	Government should reduce import duties on fuel-efficient vehicles and machinery.
R33	Training programs on energy efficiency should be provided to help SMEs cut fuel use.
R07	Business associations need to organize bulk fuel purchase schemes so members can buy at lower rates.
R73	Authorities should ensure transparency in fuel pricing to build trust and allow SMEs to plan better.
R22	Associations can negotiate with oil marketing companies on behalf of SMEs for fairer pricing.
R38	Authorities should encourage investment in renewable energy through grants or tax breaks.
R51	Support is needed in creating cooperative transport networks among SMEs.

The responses highlight that SMEs look for both immediate financial relief and structural support to maintain stability during periods of fuel volatility. Calling better regulations, investments in renewable energy and incentives like subsides among other suggest solutions.

4.4.12 In your opinion, what additional measures should SMEs adopt to remain profitable despite fuel price hikes?
As indicated in Table 4.21 below, the responses from random respondents show that SMEs see the need for both cost-saving and innovative approaches to remain profitable during fuel price hikes. Several suggested adopting solar energy and other renewable sources to reduce reliance on fuel

Table 4.10 Measures Suggested: information source, questionnaire

Respondent	Response
R01	SMEs should invest in solar energy to reduce reliance on fuel-powered generators.
R12	Forming buying cooperatives for bulk fuel purchases can lower expenses.
R19	Introducing flexible pricing models such as discounts and bundling could retain customers.
R23	More investment in fuel-efficient vehicles and machinery is needed.
R27	SMEs should negotiate long-term contracts with suppliers to stabilize costs.
R34	Developing partnerships with logistics companies can help reduce delivery costs.
R38	Businesses should diversify into less fuel-dependent activities such as digital services.
R42	Increasing the use of local raw materials would reduce transport-related expenses.
R47	SMEs can share transport networks with other small firms to spread fuel costs.

5. Summary, Conclusion And Recommendations

5.0 overview
This chapter provides the summary of the study, conclusion, and recommendations derived from the study's findings. The objective was to examine the impact of fuel price fluctuations on the sustainable business performance of SMEs in Chingola District. The chapter utilizes quantitative data gathered from SME operators. The chapter also talks about important areas that need more help to make SMEs more resilient during economic shocks caused by fuel prices hikes.

5.1 Summary
The following are the summary on the regression analysis for the respective objectives;
Business Growth, The regression results show that fuel price fluctuations have a statistically significant negative effect on SME business growth ($\beta = -0.684$, $t = -6.11$, $p < 0.001$), with the model explaining 46.8% of the variation in growth ($R^2 = 0.468$; $F(1,73) = 64.92$, $p < 0.001$). This indicates that increases in fuel price volatility substantially reduce growth prospects for SMEs in Chingola District.
Operational Stability, Fuel price volatility was found to significantly undermine the operational stability of SMEs ($\beta = -0.742$, $t = -7.57$, $p < 0.001$), accounting for 52.1% of the variation in operational stability ($R^2 = 0.521$; $F(1,73) = 79.43$, $p < 0.001$). The strength of the relationship highlights fuel price volatility as a major source of operational disruption among SMEs.
Profitability Strategies, The adoption of cost-management and fuel-efficiency strategies has a positive and statistically significant effect on SME profitability during fuel price hikes ($\beta = 0.613$, $t = 5.73$, $p < 0.001$), with the model explaining 43.2% of the variation in profitability ($R^2 = 0.432$; $F(1,73) = 32.83$, $p < 0.001$). This finding suggests that strategic responses play a critical role in cushioning SMEs against the adverse effects of fuel price increases.

5.2 Conclusion

The goal of the study was to find out how changes in fuel costs affected the long-term viability of SMEs in Chingola District. The results showed that fuel volatility has a significant impact on operational stability and business growth. Fuel prices were consistently cited by SME owners as a significant component of their operating expenses across the data. With 42.67% reporting that gasoline occupied between 26 and 50 percent of their operational budget and 14.67% reporting that it exceeded half of their expenses, fuel was responsible for more than a quarter of business costs for many respondents.

i. The study also found that fluctuations in fuel prices have a detrimental impact on corporate growth metrics like revenue, sales, market expansion, and investment prospects. The majority of SMEs stated that the increase in fuel prices has either significantly slowed or stopped their expansion. In particular, 16.00% of respondents said that growth was significantly hampered, and 69.33% said that fuel volatility decreased growth. This indicates that over 80% of SMEs have seen a dropin business as a result of rising fuel prices. The conclusion drawn from this is that fuel instability leads to operational uncertainty, which impairs SMEs' dependability in meeting market demands and has a direct effect on customer satisfaction and confidence.

ii. Another significant area that was impacted by fuel volatility was customer relations. The results revealed that 32.00% of SMEs said the effect was unfavorable, and 38.67% said it had a very negative impact on customer satisfaction. The fact that so few respondents gave the effect a positive rating demonstrates how severely volatility damages customer loyalty and confidence. Fuel spikes led several SMEs to raise product pricing; 41.33% raised prices between 11 and 25 percent, and 30.67% raised prices between 26 and 50 percent. These results validate that consumers incur greater expenses while obtaining lower-quality and delayed services, resulting in annoyance and damaged relationships.

iii. The survey also found that while SMEs use a range of tactics to deal with fluctuations in fuel prices, many of these tactics are reactive rather than proactive. Increasing the cost of goods and services, cutting back on production, and scaling down operations were typical reactions. Although these tactics offer temporary respite, there are long-term hazards associated with them, including diminished market share and diminished competitiveness. Although these actions were not common, some SMEs showed ingenuity by negotiating bulk fuel purchases, implementing solar power, and investing in fuel-efficient automobiles. While 18.67% of SMEs thought their existing strategies were unsustainable, the majority (68.00%) acknowledged that they were only partially sustainable. Although SMEs show resilience and adaptability, the majority of coping mechanisms are temporary rather than long-term cures for persistent fuel volatility, according to the study's findings.

iv. The study's overall conclusion is that the Chingola District's SMEs' ability to perform sustainably is significantly hampered by the unpredictability of fuel prices. Growth, operations, long-term planning, profitability, and customer pleasure are all impacted. According to the research, SMEs maintain their resilience and use a variety of coping strategies, but many of these are not very broad or long-lasting. To increase resilience and lessen reliance on unstable fuel markets, SMEs, the government, and business groups must work together in a concerted effort.

5.3 Recommendations

Looking at the data analysis and literature above below are the recommendation to both business community and policy makers;

i. Encourage the use of alternative energy sources and energy efficiency: SMEs should receive assistance and encouragement to invest in alternative energy sources and energy-efficient technologies. To lessen reliance on fuel, many respondents expressed interest in utilizing solar energy and fuel-efficient equipment. Programs that provide access to solar systems, energy-efficient devices, and fuel-efficient or hybrid cars can be developed by government and corporate groupings. This would lessen SMEs' direct vulnerability to changes in fuel prices. Businesses can reduce expenses, increase stability, and make sure that operations continue even in the event of a significant increase in fuel prices by diversifying their energy sources.

ii. Make SMEs' financial support mechanisms stronger: During fuel emergencies, financing access continues to be a major obstacle. Many SMEs stated that they had little options for mitigating the impact of the sharp decline in their profits. In order to assist firms in managing operational shocks, it is necessary to have targeted emergency funding, flexible loan repayment plans, and reasonably priced credit facilities.

iii. Enhance Logistics and Infrastructure Support: It was claimed that inefficient transportation networks and poor road conditions raise operating expenses and fuel consumption. The amount of fuel needed for delivery and supply chain operations would decrease if the government invested in improved road infrastructure in Chingola and the adjacent districts

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