

**PROJECT SUBMISSION FORM (ADIP05)**

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| **CANDIDATE NUMBER** | **ADVH131626** |
| **PROJECT TITLE** | **DRIVING ECONOMIC GROWTH THROUGH APPLICATION OF LOGISTICS TENETS. A CASE OF NATIONAL FOODS LIMITED, HARARE.** |
| **COLLEGE** | **SPECISS COLLEGE** |
| **SUPERVISOR** | **DR. CHARLES MAZHAZHATE** |
| **SIGNATURE** |  |

**I certify that this project is all my own work. Any material quoted or paraphrased from reference books, critical work etc. has been identified and duly acknowledged.**

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| **SIGNED** |  |
| **DATE** | **24 NOVEMBER 2023** |

# **APPROVAL FORM**

The undersigned certify that I have read and recommended the Chartered Institute of Logistics and Transport, for acceptance; a project titled, “Driving Economic Growth through Application of Logistics Tenets. A Case of National Foods Limited, Harare.” submitted by Tafadzwa Gundiro in partial fulfillment of the requirements for the Advanced Diploma in Logistics and Transport.

………………………………………

**Name of Supervisor**

………………………………………

**Signature**

………………………………………

**Date**

# **DECLARATIONS**

With the exception of what is stated in the acknowledgements, references, and report body comments, I, **Gundiro Tafadzwa**, hereby declare that this research report is the product of my own work and has not been submitted in whole or in part for credit toward any other degree to any other university.

………………………………………

**Name of student**

………………………………………

**Date**

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I would like to express my gratitude to my supervisor, Dr. C. Mazhazhate, for your understanding supervision and advice during my time as a student.

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# **ABSTRACT**

The research aimed at showing the application of logistics tenets/ principle in driving economic growth. The main objectives of the study were to determine the current relationship between logistics tenets and economic growth, to determine the effects of logistics tenets on economic growth, to determine the challenges facing logistics industry in improving economic growth, and finally to recommend logistics strategies that enhances economic growth in Zimbabwe. The study engaged a positivism, quantitative descriptive research designs and a random sample of 70 respondents were selected randomly in the data mining process. Questionnaires were used as data collection instruments. Findings from the research were that that there is a lack of support from the government in the form of rules and assistance. Another obstacle that the logistics sector must overcome to enhance economic growth as production is impacted is outdated infrastructure and power outages. The strategies listed below were suggested by the study. Supply chain integrations, a supportive action that includes planning, implementing, and controlling the flow of people and goods within organizations like the NFL, were suggested as ways to overcome the difficulties. These activities aid and support the supply chain process. The conclusion drawn from the research is that logistics tenets/ principles and economic growth are positively correlated, with the factors that it impacts infrastructure development both internally and externally. One the other hand there was a negative relationship was found between employment creation and gross domestic product on economic growth. Thus, in order to expand the body of knowledge regarding logistics tenets and practices in the context of Zimbabwe, future research should also carry out more qualitative studies across a variety of industries.

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# **ABBREVIATIONS**

CDS Corridor Development Strategy

COVID-19 Corona Virus Disease 19

CSCMP Council of Supply Chain Management Professionals

FMCG Fast Moving Consumer Goods

GDP Gross Domestic Product

GoZ Government of Zimbabwe

GST Goods and Service Tax

GW Green Warehouse

HRM Human Resource Management

LT Logistics tenets

NFL National Foods Limited

NGOs Non-governmental organizational

OE Operational Excellence

RBV Resource Based View

SPSS Statistical Packages for Social Sciences

US United States

ZERA Zimbabwe Energy Regulatory Authority

ZESA Zimbabwe Electricity Supply Authority

# **CHAPTER ONE**

# **INTRODUCTION**

## **1.0 Background of the study**

Logistics is essential to a nation's economic development and growth because it facilitates the movement of goods and services throughout the country. As a result of the logistics industry's evolution and the resulting competitiveness among nations, the sector assumes a fundamental role in an economy by influencing a number of economic factors, including storage, transportation networks, packaging services, communication, and information technology (Sharipbekova and Raimbekov, 2018). Thanks to its active participation in this evolution, logistics has now emerged as a crucial component of trade. Thus, advancements in the logistics sector play a major role in delivering the benefits of growth and advancement.

Due to its landlocked status and strategic location in Southern Africa, Zimbabwe is an important transit point in the regional transportation system. As such, it is even more imperative that the nation invest in the upkeep and modernization of a dependable transportation network with its neighbors in order to fortify its inter-industrial links and enhance its market accessibility (Ferlie, Ashburner, Fitzgerald and Pettigrew, 2016). Because of the strategic significance of corridors, the countries of Southern Africa adopted the Corridor Development Strategy (CDS) in 2008, recognizing the need for an integrated transportation system that could effectively promote investment opportunities, economic growth, and intra-regional trade. The Southern African region is crossed by eighteen significant development and transportation corridors, which together provide a network that sustains the region's economic unity.

The economy of the great majority of emerging nations, including Zimbabwe, is heavily dependent on logistics. Supply chain management, industry and products, packaging services, information and communication devices, transportation networks, storage systems, and international trade in services are just a few of the areas it affects. The COVID-19 pandemic has caused delays, disruptions, and a decrease in the amount of logistics movements in a number of nations, making supply chains and logistics more difficult (Romanello and Veglio, 2022). In order to improve the accuracy of predicting changes during a global pandemic, it is imperative to recognize the influence of COVID-19 along the supply chain in order to protect economic growth in the future (Paul and Chowdhury, 2020).

Logistics encompasses a wide variety of complex activities related to the flow of information, including distribution and transformation from the upstream to the downstream supply chain where the items are consumed (Rodrigue, 2012). In regard to the Council of Supply Chain Logistics management is defined as an active and productive process that involves the planning, implementation, and control of goods, labor, and related information in both direction flow and storage from starting point to consuming point by Management Professionals (CSCMP, 2013), a capital global foundation in logistics network. According to Saidi, Muhammad, and Akhtar (2018), the logistics industry grows along with the transportation infrastructure and improves economic performance through cost savings, higher labor productivity, increased commerce, and more job possibilities.

In addition to having many positive economic effects, investments in logistics are crucial for boosting trade and supply chain integration, enhancing the nation's transportation infrastructure, and generating jobs in addition to lowering import and export costs. Although investments in institutional infrastructure have not yet been sufficient to distribute loads, it is now important to make these expenditures in a more comprehensive manner that takes logistics support activities into account (Rodrigue, 2012).

During the process of globalization, the development of transportation infrastructure has been essential for the integration of nations with the global economy, as the cost and efficiency of transportation services have become increasingly important for all countries (Montoya, Muñoz, and Argueta, 2023). Investments in this field have lowered expenses, increased productivity, and streamlined commerce. As a result, countries have gained a significant competitive advantage and have easier access to local and market data. However, other developments that pertain to the logistics of the information and communication sector have given nations and businesses significant advantages by lowering the cost of information access. This eliminates the impact of large distances and makes it easier and faster to search, obtain information, promote, sell, order, and provide transportation services. One could argue that the principles of logistics play a pivotal role in the advancement and growth of nations.

## **1.1 Statement of the problem**

Our findings, which have very small coefficients like those of other studies (Saidi, Samir, Muhammad, and Akhtar, 2018), show that the logistics tenets have a negative impact on economic growth in developing nations (Kalim, Rukhsana, Arshed, and Sadaf, 2019). This makes it necessary that this research be done in a developing nation like Zimbabwe.

While transportation, warehousing, inventory control, procurement, and reverse logistics are important logistics tenets, there aren't enough studies in the relevant literature that look at how logistics activities affect economic growth. It is noted that many empirical studies that have explored the significance of logistics tenets are one-country studies that employ time-series analysis; as a result, it is necessary to conduct research that does not involve time-series analysis but cross-sectional research. Furthermore, it is acknowledged that certain studies are forecasts derived from panel data at the level of a nation's cities and regions.

In Wang's (2010) study, the Chinese province of Anhui's cargo turnover served as a stand-in for logistics activities in terms of their effect on regional economic growth. The study's findings suggested that there is some ambiguity in the relationship between logistics tenets and regional economic growth. Although Yuan and Kuang (2010) focused on the correlation between the development of the logistics industry and the economic growth of China's central, east, and west regions, their results indicated that these correlations were not consistent.

It is important to highlight that there aren't many prior studies that have examined the cutting-edge applications of the logistics activities for economic growth in Africa. As a result, more research must be done on the subject, with a particular emphasis on Harare, Zimbabwe.

## **1.2 Research objectives**

1. To determine the current relationship between logistics tenets and economic growth.
2. To determine the effects of logistics tenets on economic growth.
3. To determine the challenges facing logistics industry in improving economic growth.
4. To determine logistics strategies that enhances economic growth in Zimbabwe.

## **1.3 Research questions**

1. What is the current relationship between logistics tenets and economic growth?
2. What are the effects of logistics tenets on economic growth?
3. What are the challenges of logistics industry in improving economic growth?
4. What are the logistics strategies that enhances economic growth in Zimbabwe?

## **1.4 Research hypothesis**

*Hypothesis 1: Infrastructure development is positively related to economic growth.*

*Hypothesis 2: Employment creation is positively related to economic growth.*

*Hypothesis 3: Gross domestic product is positively related to economic growth.*

## **1.5 Significance of the study**

The research is very significant from a Zimbabwean standpoint because it looked at the connection between the country's logistics principles and economic growth. This study helps various partners or stakeholders in the supply chain to produce a useful summary of economic growth. It offered policy recommendations and ideas, particularly for nations and regions that severely underestimate the importance of logistics tenets.

Additionally, the study helped the student develop an appealing ability to compile, organize, analyze, and interpret the data as needed to translate academic theory into real-world applications. This improved the foundation for additional research on the understudy. Additionally, the study gave most practitioners important information about how to apply logistics principles/tenets to achieve more high rates of economic growth. In the end, the study added to the deficient body of knowledge in the area and throughout Zimbabwe regarding the administration and application of logistics principles/tenets.

## **1.6 Scope of the study**

A single manufacturing company located in Harare, Zimbabwe, was the sole focus of the investigation. Harare was chosen as the study area because it is Zimbabwe's capital and is therefore anticipated to elicit a wide range of responses that will reflect the diverse views of the country as a whole.

## **1.7 Layout of the study**

There are five chapters in the research. Chapter 1 covered the study's background, problem statement, objectives, questions, and hypothesis. It also included a conceptual framework, study significance, study layout, definitions of terms, and an overview of the entire chapter. Chapter 2 reviewed the corpus of previous research on the topic in order to understand the research topic. The third chapter of the study covered the following topics: reliability and validity, ethical considerations, target population, data analysis sample size, sampling techniques, research instruments, data collection procedures, research instruments, and presentation. The study's findings and associated discussions were covered in chapter four. The results of the study were presented in Chapter 5 along with some recommendations that would offer ideas for further research.

## **1.8 Definition of terms**

Transporting raw materials from suppliers to a production facility, moving and storing finished goods within facilities, and delivering finished goods to distribution hubs, retail stores, or end users are all parts of the logistics process (Höller, 2014).

In general, economic growth can be defined as the gradual and quantitative expansion of a country's production capacity (Arslan, 2013).

## **1.9 Chapter summary**

The research was introduced in Chapter 1 by providing the study's background. By providing a summary of historical performance in the context of logistics tenets, it essentially explained why the study is required. The study aimed to ascertain the existing correlation between logistics principles/ tenets and economic growth, the impact of logistics tenets on economic growth, the obstacles that logistics tenets face in enhancing economic growth, and to devise approaches that could augment economic growth in Zimbabwe. From a Zimbabwean perspective, the study is fundamentally important because it aims to improve or increase the economic performance base. In the end, the chapter decided to focus on Harare, acknowledging that there is a vast and varied acknowledging the existence of a broad and varied response that would reflect the viewpoint of the country as a whole.

# **CHAPTER TWO**

# **LITERATURE REVIEW**

## **2.0 Introduction**

The research on logistics tenets, starting with the theoretical framework, understanding logistics tenets, the relationship between logistics tenets and economic growth, the effects of logistics tenets and economic growth, challenges facing logistics tenets in improving economic growth, and the logistics strategies that enhance economic growth in Zimbabwe, was covered in this chapter through a review of the literature that was available in the field. After the entire discussion, the business case for logistics tenets' contribution to promoting positive economic growth was able to be presented.

## **2.1 Theoretical Framework**

This section of the study uses the theory of as the theoretical framework of the study.

### **2.1.1 Resource Based View**

According to the resource base view theory, a company can only benefit from its competitive advantages when its resources are available (Opoku and Kaku, 2018). According to the theory, the organization's resources have to be unique and unreplicable (Dewi, 2018). According to Siying (2017), the resources can be divided into four categories: information, organizational structure, human capacities, and assets. According to the resource base view theory, in order to support organizational performance and competitive advantage, environmental dynamics and internal organizational strength must effectively coexist (Sun, 2017).

Differentiation and cost leadership is essential for competitive companies, according to resource base view theory (Alfalla, 2019). According to the cost leadership principle, businesses should put a higher priority on increasing sales and cutting costs since these actions will boost profit margins (Luque, 2019). The differentiation concept is centered on distinctively branding products, services, and marketing strategies that make a statement in the marketplace (Medina, 2019). According to the resource base view theory, businesses should use different tactics to consistently meet the needs of their clients in order to stay relevant in the marketplace (Dewi, 2018).

A lot of businesses have started implementing green practices (Shanty, 2018). The public's growing awareness of the need for a sustainable environment has led to an increase in environmentally friendly initiatives over time (Zulfikarijah, 2018). Because it significantly affects the organization's brand image, green logistics is very important (Anderson, 2019). Consumers are readily swayed in their purchasing decisions by an organization's image (Fien, 2018). Patronage from customers generates strong sales, which increase revenues and market share (Kamara, 2018).

The organization will become more meticulous about the use of resources and the elimination of waste, which will improve operational performance (Mohammed, 2018). Reverse logistics is a resource that is challenging to replicate since logistics is typically customized to fit organizational practices (Masudin, 2018).

### **2.1.2 Institutional Theory**

One popular theory that explains how organizations formulate, create, and carry out strategies is called institutional theory (Adebanjo, 2017). According to the institutional theory, organizations function within specific bounds. The framework, which consists of the regular procedures, structures, and policies governing behavior inside the company, serves as the guiding boundary (Laosirihongthong, 2018). According to the institutional theory, three concepts—normative, mimetic, and coercive—determine how organizations make decisions about how to carry out logistics activities (Ojadi and Tickle, 2018).

The professional concept is associated with normative concepts. The act of imitating practices to adapt to the dynamics of a business environment is known as mimetic concept. Political and institutional influence on business practices is the coercive concept (Craig, 2017). Organizations are compelled by normative power to adhere to rules and codes of conduct, particularly when it comes to logistics principles (Bill, 2017).

According to recent studies, customers' perceptions are altered when they encounter delays in product delivery, pricing, or availability. Customers now prefer green products due to their increased awareness of sustainable environmental programs (Harris, 2016). Inventory management may be implemented by businesses in an effort to consistently meet customer demands. Due to consumer preference for eco-friendly products, businesses also use reverse logistics (Taylor, 2016). Customers are now very interested in product specifications. Consumers will not tolerate products that fall short of their expectations. Consumers who receive products that are not what they expected can easily return them (Akdoğan, 2016).

Organizations use logistics to respond quickly to customer returns of products while preserving good customer relations (Coşkun, 2018). Quality and flexibility can be increased by using data from the reverse flow to enhance the product's design, manufacture, packaging, and cost.

Stakeholders are under pressure from the coercive power to encourage effective inventory management and reverse logistics within their organizations. The penalties imposed on defaulters are what are causing the coercive pressure. Organizations will be compelled by this pressure to maintain high standards of quality. Organizations are encouraged to implement reverse logistics practices by the mimetic power due to the success of their competitors.

## **2.2 Logistics tenets/ principles**

### **2.2.1 Transportation**

Broadly speaking, transportation infrastructure connects cities and includes human activity in conjunction with the industrialization, population growth, and social, economic, and environmental structures. By fostering connections between or within cities as a result of urbanization, the transportation network also contributes to socioeconomic development and a higher standard of living (Huang, Riddle, and Masanet, 2016). Thus, when expanding the transportation network, goals like robust, low-carbon growth should not be disregarded (Saretta, Caputo, and Frontini, 2019).

Comprehensive urban transportation infrastructure promotes urban dispersion and convergence, which greatly enhances both domestic and global economic development (Holl and Mariotti, 2018). However, irrational transportation infrastructure planning also has negative consequences, including harm to the environment, a high number of traffic fatalities, environmental problems, CO2 pollution, and decreased transportation efficiency (Tong and Yu, 2018). It is necessary to identify a multitude of effects on transportation infrastructure from published studies. According to research by Cigu and Toader (2018), businesses (local, national, and international) can expand their presence and transportation capabilities to gain access to goods, distribution channels, and a customer base by investing in transportation infrastructures like rail, airports, and seaports. All these supports economic growth and are connected to economic clusters.

The relationship between investments in transportation infrastructure and economic growth, as well as how economic growth can occur on different phases of the development concepts, are not well explained by the economic development policies of many developing countries, including Nigeria (Lemes, Antonio, and Larson., 2020; Lindsey and Santos, 2020). Given that the current system of colonial roads was not created with a very long-term commitment to many developing countries, the planning, investment, and execution of transportation are viewed differently than sustainable economic growth and economic development (Batool and Goldmann, 2020). Without the aid of environmental assessment reports, economic research, or feasibility analyses all of which are typically correlated with the design and cost of transportation infrastructure in the developed world road infrastructure serves as the backbone of most transport infrastructures in these developing nations.

Although the development of transportation received a lot of attention in developed nations generally in the early stages of their industrialization, the systems that were passed down to them have since been updated or modified. On the other hand, developing countries like Nigeria also improve their transportation systems in order to accelerate their economic growth (Onokala and Olajide, 2020). Development of transportation infrastructure, in particular, could lower travel expenses, draw in foreign capital, and increase trade in shared resources (Management and Kingdom, 2020).

In terms of social capital, transportation infrastructure plays a significant role in industrial development. It also clearly affects regional advancement, factor reassignment, and manufacturing efficiency, all of which promote the growth of the population, industry, and economy (Dynamics and Development, 2019). On the other hand, the transportation infrastructure can only have an economic impact if specific institutional, political, and economic conditions are met, as well as requirements for investment.

Intermodal connectors, particularly entry roads to ports and connectors that link roads to each other, are crucial components of the transportation network. Without them, the transportation network is insufficient and cannot facilitate the efficient flow of people and products (Rodrigue et al., 2019). Owing to their importance in the transportation network, they have an impact on other transportation infrastructure and all aspects of economic development. Intermodal connectors allow the system to perform as intended. Major routes that lead to ports are intermodal connectors that make port facilities accessible to regions, lowering the cost of production for businesses that use them (Copper, 2018).

According to Küçükönal and Sedefoğlu (2017), both direct and indirect effects of the aviation industry contribute to economic growth. This system boosts foreign direct investment, international business opportunities, tourism, and the creation of new jobs. It also expedites the transportation of goods by air cargo. The aviation industry, according to ATAG (2020), created 88.7 million jobs globally in 2018 and generated 3.5 trillion US dollars, or 4.1 percent of the global gross domestic product (GDP). About 58% of tours were conducted by air, and air transportation accounted for 6.5 trillion US dollars' worth of commerce, or 35% of all commerce conducted worldwide in terms of value.

### **2.2.2 Warehousing**

Warehouses are critical to a company's ability to compete because the fundamental ideas, practices, and roles of warehousing have expanded with added value (Ibrahim, Fernando, Tseng, and Lim, 2022). Operational excellence (OE) can be attained from a warehouse standpoint if the business keeps an eye on a steady degree of inventory efficiency (Fernando, Abideen, and Shaharudin, 2020). According to Ishizaka, Khan, and Kusi (2022), maintaining competitiveness and achieving comprehensive supply chain sustainability require businesses to have a sustainable warehouse.

Green warehouse (GW) practices are very beneficial to manufacturers and companies in today's fiercely competitive local and international business environment (Rahman, Ali, and Sarpong, 2020). These benefits extend beyond environmental protection to include survival and ongoing operations (Islam, Moeinzadeh, and Tseng, 2021; Rahman et al., 2020). Furthermore, the reduction in energy consumption at the warehouse results from the fulfillment of regulatory requirements as well as cost cutting and the introduction of new marketing techniques (Lewczuk and Kłodawski, 2021). Thus, all warehouse activities, such as receiving, storing, handling materials, and shipping, were included in GW operations (Ibrahim et al., 2022).

Aside from that, the manufacturing sector faces constant pressure to enhance its warehousing operations while also dealing with a host of environmental issues from the government, consumers, and non-governmental organizations (NGOs) (Abu, Govindan, and Mardani, 2019). Because of this, the manufacturing sector is currently required to focus more on streamlining supply chain procedures and coming up with novel solutions to address pollution issues brought on by their activities, particularly when it comes to warehouse operations.

### **2.2.3 Inventory control**

The coordination of a company's policies for inventory control is known as inventory management (Hugo, Tortorella, and Testoni 2017). Finished goods, work-in-progress items, and raw materials are all included in inventories (Fettermann, 2018). Policies for inventory management help organizations make sure they don't overstock or understock their products (Shah, 2017). Inadequate inventory control may cause stock to be locked up, preventing visibility in the supply chain's upstream and downstream nodes (Tortorella, 2018). This could result in faulty products, delays, shortages of certain products, and weaknesses in internal control.

For organizational operational requirements, inventories are crucial (Testoni, 2018). Effective inventory management is a key differentiator for successful businesses as it allows them to significantly enhance their operations (Sai, 2018). High profit margins and a larger customer base are guaranteed by effective inventory management (Subrahmanya, 2018). Organizations structure their inventory management in an attempt to meet customer demands (Tejesh, 2018). Inventory control guarantees that businesses consistently satisfy consumer demands (Neeraja, 2018).

Organizational procedures including packaging, delivery, warehouse management, transportation, acquisition, and planning are all part of inventory management (Katjones, 2021). Business organizations gain from inventory management because it helps them to handle internal issues and guarantee the highest level of customer satisfaction (Lysons, 2016). Inventory control procedures assist the company in cutting costs, decreasing waste, stopping product shortages, reducing theft, reducing obsolescence, and lowering high sales (Farrington, 2016).

Organizations can protect themselves from changes in the business environment by implementing effective inventory management practices (Hartmann, 2018). Risk is frequently brought on by the unpredictability of the business environment (Trautmann, 2017). Risks associated with the economy, finances, markets, supply and demand, and possibility of disasters are all present (Jahns, 2018). These associated risk factors pose a threat to an organization's ability to operate efficiently (Mamiro, 2017). Many times, inventory management refers to having too much inventory and not enough management, or having too little inventory and too many management techniques (Godana, 2019).

### **2.2.4 Procurement (sourcing)**

Procurement, according to Agbeko, Effah, and Boateng (2021), is the process of identifying and deciding on terms for obtaining goods, services, or construction projects through competitive bidding or tendering. Among the procurement practices are electronic procurement, multiple sourcing, and local sourcing, to name a few (Huragu and Chuma, 2019). According to Javidi, Salajegheh, and Sayadi (2020), the procurement process also includes the preparation and handling of demands as well as the acceptance of payments upon final receipt. The procurement process includes, among other things, standards-setting, determining specifications, researching and selecting suppliers, financing, negotiating prices, and inventory control (Huragu and Chuma, 2019).

For a construction project to be implemented successfully, procurement procedures are essential (Kirombo, 2018). Lyimo (2022) defines procurement as the process of acquiring goods through consumer and producer competition. The consistent availability of the appropriate materials in the appropriate quantities, from the appropriate suppliers, at the appropriate times, and at fair prices is ensured by an efficient procurement procedure that is established (Lyimo, 2022). Building collapses have occurred frequently in many nations as a result of subpar contractors or materials that were acquired (Bekele, 2018).

Bureaucratic leadership entails excessive consultation, which causes delays in the procurement functions' drug purchases and lowers service quality (Huragu and Chuma, 2019). Zimbabwe is not an exception to the rule that most emerging nations have inept procurement practices and utterly bureaucratic procurement sectors that result in subpar service delivery. Zimbabwe's public health system is not operating at the anticipated level (Chikwere, Chikazhe, and Tukuta, 2022).

The procurement function must be made sure to be operating efficiently at both the organizational and national levels of the economy, given the economic significance of procurement activities and the amount of public funds allocated to it (Changalima et al., Citation2021). Stakeholders and scholars alike find the way procurement activities are carried out in different organizations to be unappealing because of mismanagement and malpractices (Changalima et al., 2022; Basheka, 2021).

In order to attain the intended procurement performance, all other function must consistently be carried out effectively and efficiently while abiding by the stipulated rules of good governance and professional etiquette (Mchopa, 2020). It is imperative for organizations to ensure that procurement practitioners possess all the requisite sourcing skills to ensure high-quality performance of procurement activities (Basheka, 2010; Changalima and Ismail, 2019).

Therefore, for government procurement activities, procurement management skills are essential. Additionally, it has been shown that procurement skills correlate with the ease with which tasks like supplier management, problem solving, and communicating requirements and plans can be carried out (Basheka, 2010; Changalima and Ismail, 2019).

### **2.2.5 Reverse logistics**

The backward movement of products in the supply chain is known as reverse logistics (Navid, 2020). Reverse logistics is used to reassemble and discard goods (Zarbakhshnia, 2020). When consumers return goods or packages that don't meet their requirements, reverse logistics can start up (Yong, 2020). Products and materials often move backward due to obsolescence, damages, recalls, restocking, excess inventory, and seasonal products (Wu, 2020).

Recycling, disposal, and recovery are the three primary tasks that are frequently included in reverse logistics (Kannan, 2020). Businesses frequently prioritize forward logistics while ignoring the importance of reverse logistics operations (Govindan, 2020). Top management typically prioritizes internal logistics tasks, which include moving materials and goods within the company (Hamed, 2020). The purpose of this procedure is to guarantee that the appropriate product is produced and transported at the appropriate time and location (Soleimani, 2020).

Since many organizations lack the facilities to manage reverse logistics tasks, they frequently divert returned goods to forward logistics tasks, particularly during periods of high demand (Himanshu, 2019). According to recent studies, reverse logistics accounts for 6%–8% of the total cost of logistics operations, which can be expensive for the organization (Prajapati, 2019). Through their reverse logistics operations, the pharmaceutical and automotive industries have made money. Profit margins have gone up as a result of this (Ravi, 2019).

According to a recent study, the Estee Lauder group of companies made $3 million from reverse logistics (Kant, 2019). The Estee Lauder group of companies produces skin care and pharmaceutical products (Ravi, 2019). Their recent research indicates that by concentrating on reverse logistics techniques, they can increase their annual revenue by at least 25% (Shankar, 2019). According to the study, an organization's financial performance can be enhanced by implementing efficient reverse logistics procedures (Saurabh, 2019). Reverse logistics has drawn more attention from the global community in recent years (Agrawal, 2019).

International organizations have created guidelines for the efficient disposal of products that are unique to each nation and sector (Rajesh, 2019). Additionally, consumers are growing more aware of environmental issues and green practices (Singh, 2019). Organizations are under increased pressure as a result to improve their reverse logistics procedures (Vivianne, 2020). Additionally, community leaders exert pressure on organizations to refrain from disposing of their leftover produce in landfills and rivers (Julianelli, 2020). Organizations are now being pressured by this recent event to recycle and dispose of the products properly (Rodrigo, 2020).

In today's businesses, reverse logistics is considered a critical performance metric (Goyannes, 2020). Effective management of reverse logistics activities by organizations has emerged as a crucial factor for success (Gusmão, 2020). Businesses that adhere to rules and guidelines when conducting reverse logistics operations gain a positive reputation and goodwill from the public, which affects how people view their businesses (Caiado, 2020).

## **2.3 The relationship between Logistics tenets and economic growth**

The principles of logistics and economic growth are mutually reinforcing. Saidi et al. (2018) claim that the logistics sector expands in tandem with the transportation network and enhances economic performance by lowering costs, raising labor productivity, promoting trade, and creating jobs. The rapidly developing local economy has the potential to be both a strong catalyst for the upstream and downstream industries that make up the logistics supply chain as well as a strong basis for the expansion of the logistics industry in the region.

Furthermore, the expansion of the logistics sector can sustainably boost the region's economic growth and offer ongoing support for the modification of the region's economic growth mode, the reorganization of the industrial structure, the improvement of regional competitiveness, and the acceleration of the development of regional economic integration (Guo, 2020).

The globalization of the economy has accelerated industry-to-industry exchanges. The labor division has been improved. There has been more evidence of collaboration between national and international logistics organizations. The logistics sector has grown quickly as a result of all these factors (Feng and Liang, 2015). Numerous academics have been interested in the connection between the logistics sector and local economic expansion in recent years.

The broad definition of logistics includes the following activities: delivering raw materials and finished goods to distribution hubs, retail stores, or end users; transporting raw materials from suppliers to a production facility; and moving and storing raw materials and finished goods within facilities (Höller, Tsiatsis, Mulligan, and Boyle, 2014). In contrast, supply chain management includes logistics management, which organizes, plans, and manages services, production, and pertinent data to meet customer demands.

Since the 1980s, more businesses have been outsourcing services in order to concentrate more on their core competencies. As a result, the logistics industry has expanded quickly and now contributes significantly to economic growth (Chu, 2012). Academic studies followed suit with this quick expansion. The literature contains a very thorough analysis of the logistics industry's research.

## **2.4 The effects of logistics tenets on economic growth**

### **2.4.1 Infrastructure development**

Scholars have examined the physical infrastructure stock as a driver of economic growth. Their findings indicate that, not only is infrastructure development a prerequisite for sustainable economic growth, but it also has a greater estimated impact on growth in developing economies (Hussain, Ammar, and Marina, 2021). Furthermore, as nation’s transition from primary and secondary industries to tertiary industries, infrastructure investment becomes increasingly crucial and significantly boosts economic growth in less developed nations (Kodongo and Ojah 2016).

Transportation infrastructure promotes economic growth, lowers the price of commodities, provides access to international producers and consumer markets, and lowers the cost of transportation while enhancing accessibility, all of which help to increase the efficiency of global manufacturing (Meersman and Nazemzadeh, 2019). According to Subhra and Nath (2017), the efficient use of private sector investments and high production are the main factors promoting economic development and social well-being in the transportation infrastructure. Specifically, improving transportation infrastructure could reduce travel expenses, attract foreign investment, and increase trade among shared resources (Management and Kingdom, 2020).

In order to support life-cycle thinking across the three sustainability dimensions of economic, environmental, and societal sustainability, certain sustainability-focused building construction approaches have been developed. As noted by Bocchini et al. (2014), there aren't many comprehensive methodologies made expressly for evaluating the sustainability of infrastructures. Infrastructure systems, which provide basic services like energy, water, waste management, transportation, and telecommunications, are the backbone of any society, so this needs to change (Thacker et al. Citation 2019). To achieve a deeper understanding of present and future needs as well as the relationship with sustainability, more focus should be placed on creating innovative approaches to infrastructure design, construction, operation, and monitoring.

The recommendations made by Gürdür Broo and Schooling (Citation2020, Citation2021) state that the industry should take into account user-centric approaches, blend methodologies (Gürdür and Törngren Citation2018), and identify the needs of the organization in order to address the issues pertaining to availability, accessibility, quality, volume, variety, and longevity of data.

The road and aviation transportation systems in the UK are comparatively well-established (Gwilliam and Mackie, 2017). Consequently, 89% of passenger miles and 76% of freight were transported by road in 2016, adding £12.4 billion to the economy in the UK's road freight sector (Department for Transport, 2018). The United Kingdom possesses the third largest air transport network globally, after China and the United States (Department for Transport, 2013). It is also the most extensive air transport network in Europe.

The economy's investments in its roads, trains, and airports rise along with them. These infrastructure projects are expanded, modernized, and occasionally imports from other countries. Similar to this, physical infrastructure improvements boost the business climate and increase the effectiveness of transportation, both of which support the expansion of exports (Portugal-Perez and Wilson, 2018).

The results of studies for Asian countries differ, but those for African countries generally agree that infrastructure development boosts economic growth and lowers income inequality and poverty. The other studies found a positive relationship between infrastructure investment and economic development, whereas Shi, Guo, and Sun (2017) found unclear or heterogeneous links between physical infrastructure investment and regional economic growth.

Therefore, it is proposed that:

*Hypothesis 1: Infrastructure development is positively related to economic growth.*

### **2.4.2 Employment creation**

Though just 12% of Zimbabwe's GDP came from agriculture, forestry, and fishing in 2018, 60%–70% of the country's population gets their income and employment directly from these sectors. Within the industry, there are wide differences in terms of scale and productivity. Approximately 60% of the raw materials used in manufacturing come from commercial agriculture, which also produces cash crops, primarily tobacco for export, which is a significant contributor to other economic activity. The logistics sector is critical to a nation's ability to establish sectoral connections within the nation and to link the nation's economy to the global economy. It also generates additional income and job opportunities, all of which support economic development (Tang and Abosedra, 2019).

Better freight services boosted trade, which was followed by an increase in the labor pool and the spread of technology, as demonstrated by Lakshmanan (2011). As "nodes" of economic activity, commercial farms in Zimbabwe are crucial because they are integrated into regional supply chains, obtain inputs from the surrounding region through outsourcing, and sustain a regional market for agricultural services.

Therefore, it is suggested that:

*Hypothesis 2: Employment creation is positively related to economic growth.*

### **2.4.3 Gross domestic product (GDP)**

The transportation sector in India has observed that changes in GDP, tax expenditure, and inflation rate can account for 70.6% of the variation in net profit after tax. Since the Goods and Services Tax (GST) has a negative correlation with profit at the 5% level of significance and eliminates the cascading effect of multiple taxes, profit will increase as a result. In addition, fewer warehouses in more advantageous locations will be the result of the GST, which will reduce transportation costs and, as a result, lower the price of the products per unit compared to earlier prices. This will ultimately result in a high demand for the goods, raising GDP. The logistics industry will see higher profits because GDP and profit are positively correlated. Thus, the most important component of the global supply chain management is logistics. Investments in the nation's transportation infrastructure and logistics industry are growing faster than the GDP of the economy.

Shan (2014) found that a 1% increase in port cargo throughput can boost GDP per capita growth by 7.6% in the context of China and that a country's port throughput has a positive effect on the economies of its neighbors. Businesses in nations with superior logistics capabilities are generally more likely to distribute to foreign markets and attract foreign direct investments (Hausman, Lee, Subramanian, 2013).

Logistics and transportation play a positive role in any economy's growth. The value of the global logistics industry is estimated at USD 4 trillion. Generally speaking, logistics makes up 8% to 20% of the GDP of a nation. In contrast to the US, where logistics costs are about 9%, India's logistics costs represent 13% of GDP, or roughly USD 260 billion (Frank, 2018; Kumar and Ramesh, 2018). Reducing these costs will give Indian exports a competitive edge. The growth of the logistics industry will ease production and save distribution and transportation expenses. In order to achieve cost and effectiveness for its nations, careful planning of logistical operations is essential.

Significant obstacles still exist, and the dynamics of Africa's macroeconomic fundamentals are still inconsistent. But from 1.7 percent of GDP in 2021 to 2.1 percent in 2022, the average current account deficit is predicted to have increased, reaching 2.3 percent in 2023–2024.

Therefore, it is proposed that:

*Hypothesis 3: Gross domestic product is positively related to economic growth.*

## **2.5 Challenges facing Logistics industry in improving economic growth**

### **2.5.1 Deteriorated infrastructure**

Due to Zimbabwe's landlocked status, imports and exports must go through other nations. More capacity is required to support new mining areas, bulk agricultural exports, and emerging economic activity. In the forty years since gaining independence, Zimbabwe has not constructed any new railways, and those that are in place have not been maintained. Investment in infrastructure development may be stimulated by extending invitations to certain private rail and road operators to construct and manage the rail network and roadways through the arrangement of concessions for public-private partnerships.

Most African countries, especially those that are landlocked, face significant challenges to trade, competitiveness, and sustainable development due to inadequate infrastructure and a lack of intermodal transport systems. According to Takele (2019), African economies perform the worst in terms of logistics on average. This is mainly because of subpar infrastructure linked to trade and transportation, as well as ineffective border and customs clearance processes. Poor transport infrastructure is cited in the Knight Frank Group's (2016) report as one of the main causes of Africa's subpar logistics performance. This is because there are insufficient or no rail and road connections between the continent's central economic hubs.

This is due to the fact that high transportation costs which are two or three times higher in Africa than they are on average in advanced economies are caused by inadequate transportation infrastructure. For instance, macro logistics issues in South Africa limit business efficiency and economic growth prospects, even though the country is rated as having the best logistics performance among African nations (Havenga, 2018). These consist of high overall logistics expenses brought on by expensive transportation. According to Muogboh and Ojad (2018), the majority of African nations struggle with logistics because of ineffectiveness, inadequate infrastructure, and other bureaucratic roadblocks. According to Wawira (2019), the cost of transportation accounts for between 50% and 75% of the retail price of the goods, supporting the need for long-term solutions to Africa's logistical problems.

Regarding this, Mafusire (2018) said that one way to achieve sustainable economic progress in Zimbabwe is to "to address any cross-border delays and related trade facilitation issues, establish road transport corridor management institutions along strategic regional road transport corridors."

### **2.5.2 Power shortages**

Power consumption and power infrastructure investment are key drivers of social progress and economic growth, and the availability and dependability of the power supply are key enablers of social welfare, high-quality economic development, and the facilitation of low-carbon and green transformations (Shi et al., 2021).

Due to differing electrical infrastructure, varying weather patterns, and differing management levels, power supply quality varies amongst nations (Chen et al., 2022; Hallegatte et al., 2019). Companies that rely on backup diesel generators due to an unreliable electricity system also incur higher costs and emissions of pollutants (Farquharson et al., 2018). The primary dependent variable is the total amount of electricity consumed, even though these studies have already examined the effects of power supply quality on the economic output of the enterprises from micro-mechanisms like enterprise productivity, production cost, sales revenue, and labor employment (Abeberese et al., 2021). Furthermore, according to Halleggatte et al. (2019), the macroeconomic impact of power supply quality is frequently disregarded.

According to pertinent research, a stable power infrastructure is essential for businesses to enter markets, identify potential clients, attract investment, and introduce new technology, all of which boost total factor productivity (Escribano et al., 2018). On the other hand, a weak power supply will cause delays in production, harm to delicate machinery, and spoilage of perishable goods. (Alby, 2017). Using a one-size-fits-all approach to "power cuts" to directly limit or stop businesses' normal power consumption is an example of "one-size-fits-all restrictions," which has a greater impact on business operations and cause interference. Many studies refer to this strategy as unplanned power outages (Hashemi and Jenkins, 2022).

Worldwide, more than thirty percent of businesses stated that a major obstacle to their operations is the availability of electricity (World Bank, 2022). According to Rentschler et al. (2019), the World Bank projects that power and water shortages can cost businesses in developing nations up to $82 billion annually. Reexamining the economic impact of power shortages can inform current policy development, given the probability of growing power shortages in both developed and developing countries, as well as the substantial cost of power shortages. For instance, cost competitiveness of electricity storage technologies will increase if public finance measures can compensate for economic losses resulting from an unstable power supply.

The vulnerability of Zimbabwe's electrical system and the danger of relying too much on a small number of large-scale centers of generation have been made clear by several droughts. The Hwange Colliery thermal power plant and Kariba Dam's deteriorating machinery have resulted in Zimbabwe's energy output being reduced to less than one-third of its 1,800 MW capacity. Low levels of the dam and other hydro plants have also contributed to this reduction.

The output was less than 600 MW as of August 2019.37 Despite adding 350 MW of additional generating capacity to the grid, the 2018 completion of the Kariba South Extension represents Zimbabwe's first power generation investment in thirty years. In Zimbabwe, power outages have reduced productivity and forced many businesses to fire employees. In order to survive, businesses have demonstrated a great deal of inventiveness and tenacity. Redesigned production techniques, for instance, have involved factories operating short shifts during the night when electricity is available. However, these kinds of fixes are not long-term.

Even though microeconomic studies generally indicate that electrification has a positive impact on income and other development outcomes, more recent quasi-experimental methods like randomized controlled trials generally find that electrification has less of an impact than did previous studies (Lee, Miguel, and Wolfram, 2020).

Since many small businesses now depend on generators, the instability of fuel prices has also had a negative impact on them. According to government estimates, the manufacturing sector's capacity utilization will drop to 34% in 2019 from 48% in 2018, and establishments such as hotels, restaurants, museums, and tourist destinations won't be able to produce enough electricity to run completely.

### **2.5.3 Lack of Government support**

In addition to its $500 million debt to suppliers, Zimbabwe Electricity Supply Authority (ZESA) has outstanding bills totaling over $1.2 billion. The Zimbabwe Energy Regulatory Authority (ZERA) is said to have licensed more than fifty independent power producers during the previous five years, but the low tariffs have caused those projects to remain on hold. A more reasonable tariff would encourage independent producers to make investments and provide the national grid with goods at competitive prices.

To achieve net zero emission targets, Governments of Zimbabwe (GoZ) and businesses are depending more and more on technological advancements. This is because the transition to net zero requires significant changes at the societal and industrial levels (Li et al., 2022; Shahbaz et al., 2020). Even though digital technologies have the potential to address many of the society's seemingly intractable climate change-related concerns, some recent technological innovations, like cryptocurrencies, are drawing harsh criticism for their detrimental effects on the environment (e.g., Corbet et al., 2021; Naeem and Karim, 2021).

According to the fundamental ideas of Marxism, the superstructure influences the economic base in an inverse manner, and the economic base is determined by the superstructure (Wang and Guo, 2022). In comparison to culture and ideology, politics and its manifestations have the strongest and most direct reaction to the economic base across the whole superstructure. Political circumstances have a significant impact on and can ultimately dictate the course of economic development.

### **2.5.4 COVID-19 pandemic**

The COVID-19 pandemic has resulted in various risks that have caused supply chain disruptions at both the beginning and the end, causing numerous issues with supply and demand (Ivanov, 2020). Research has demonstrated that governmental limitations have had a significant effect on transportation networks, encompassing air, rail, sea, and road transportation modalities (Loske, 2020). Specifically, during the early stages of the pandemic, supply chain disruptions compelled businesses to quickly adapt their supply chains by implementing alternate sources, rerouting operations, and cutting staff (Kähkönen, Evangelista, Hallikas, Immonen, and Lintukangas, 2023).

Due to closed borders and production facilities, logistics operations and supply chains were actually severely disrupted, which limited the manufacturing and shipping of materials to different customers worldwide (del Rio-Chanona, Mealy, Pichler, Lafond, and Farmer, 2020). There have been significant uncertainties regarding product availability and suppliers' delivery schedules as a result of COVID-19, and businesses have not received goods and services in the necessary quantity or at the desired price, which could result in them losing sales. The exact effects of the pandemic are estimated differently across Zimbabwe's various logistics fields. In addition to the severe consequences experienced by freight logistics, the pandemic resulted in the cancellation of several passenger routes due to travel restrictions on all modes of transportation, including air, sea, road, and rail (Plzáková and Smeral, 2022).

The logistics industry was significantly impacted by the limitations with regard to the movement of goods, people, and information. Numerous factors can be considered when assessing the impact, such as the dynamics of transport volumes and freight capacity (Loske, 2020), the design structure of supply chains (Ivanov, 2020), the choice of transport modes (Xu, Li, Chu, and Dinca, 2022), the ability of small actors to operate internationally (Hilmola and Lähdeaho, 2021), the supply chain for agriculture and food (Siche, 2020), the impact on pollution and air quality (Saadat, Rawtani, and Hussain, 2020), e-commerce (Rothengatter, Hayashi, and Oum, 2021), and localizing production (Sarkis, Cohen, and Schröder, 2020).

Africa's growth dropped from 4.8 percent in 2021 to an estimated 3.8 percent in 2022 after a robust recovery from the crippling effects of COVID-19. There were numerous factors contributing to the growth slowdown, including tighter global financial conditions, supply chain disruptions made worse by Russia's invasion of Ukraine, and weaker global growth that reduced demand for African exports.

The public service's ability to function well in a remote work environment and its resilience to the crisis are still up for debate. It's also unclear what factors influenced both organizational and individual resilience during this period of virtual work from home. In addition to these steps, the COVID-19 pandemic had caused a notable abatement in global economic activity (Brodeur et al., Reference Brodeur, Gray, Islam and Bhuiyan2020; Gourinchas, Reference Gourinchas2020). This resulted in furloughs and layoffs (World Economic Forum, 2020), which raised the unemployment rate in numerous nations. "The current G7 jobless totals vary greatly, ranging from 1.76 million in Japan to 30 million in the United States" (Kretchme, 2020). In a short amount of time, Gourinchas (Reference Gourinchas2020) claims that COVID-19 has created a situation in which at least 50% of the labor force may become unemployed.

Strategic agility is needed to ensure that the organization's goals are met during a crisis (Lee and Lee, 2020). Organizations must possess the capacity to plan and distribute their resources, coordinate the necessary mechanisms, and make appropriate use of their organizational knowledge and resources (Lee and Lee, 2020). The COVID-19's novelty and complexity present a substantial challenge in this situation that could jeopardize the accomplishment of organizational objectives.

As a matter of fact, COVID-19 has created uncertainty. According to some writers, the COVID-19 endemic will occur in 2020 (Regmi and Lwin, 2020), while many economists believe the pandemic's effects won't end until 2021 (Richardson and Kraimer, 2020). Even with the recent development of various vaccines, no one is certain when this virus will end or whether its effects on work patterns in organizations will be temporary or permanent (Bartik, Cullen, Glaeser, and Stanton2020). Therefore, managers and HRM professionals may find it difficult to carry out strategic planning or to execute the first one.

It has been demonstrated that teleworking may have a negative impact on public employees because leaders may find it difficult to manage virtual teams and may have fewer socialization opportunities (Vries, Tummers, and Bekkers 2019). According to van der Meer et al. (2020), the difficult circumstances of a lockdown and the transfer of caregiving responsibilities to parents in the home office may exacerbate these effects. We contend that the quick adoption of teleworking and, more generally, flexible work arrangements amid the COVID-19 pandemic acts as a precise and significant assessment of organizational and individual resilience in the public sector.

## **2.6 Logistics strategies that enhances economic growth in Zimbabwe**

### **2.6.1** **Supply chain integration**

The transport system that supports international economic relations to create a global network of exchange of goods and transfer of capital goods among nations using a variety of transport modes has been explained by a review of the logistics and transport sector (Kherbash, and Mocan, 2015). The manufacturing process has undergone a transformation in the global economy, with the logistics chain playing a crucial role (Yoon, Bang, and Woo, 2016). With a potential generating capacity of about 1,600 MW, Zambia and Zimbabwe recently decided to work together to develop the Batoka Gorge hydropower project on the Zambezi, 54 km downstream from Victoria Falls. However, it is anticipated that construction will take more than ten years.

Enhancing road networks and lowering roadside checkpoints are two more practical methods for enhancing logistics in Africa. Mota et al. (2019), who evaluated the logistics of the cocoa supply chain in Cote d'Ivoire, also affirmed this. Their simulation model yields some intriguing results: productivity would increase by 30% by reducing the number of checkpoints along the road, and the port's value of butter and beans would rise by 5% and 3%, respectively. Improving secondary and tertiary roads will boost value by 1% and productivity by 9%.

According to Neubert, Ouzrout, and Bouras (2018), logistics is a type of supportive action that includes tasks like organizing, carrying out, and monitoring the flow of people and products within businesses. These tasks aid and support the supply chain process. According to Sternad, Lerher, and Gajsek (2018), these logistics-related activities foster knowledge, innovations, and fresh approaches to increase the company's profitability. In order to improve synchronization and visibility throughout the supply chain, more cooperation is required, according to recent studies on logistics and supply chain management (Montoya, Muñoz, and Argueta, 2023). Hasty decision-making, which can occur at various levels of supply chains and society, is one of the risks associated with supply chain risk management during a pandemic (Ambrogio, Filice, Longo, and Padovano, 2022).

The manufacturers contract with other logistics service providers (LSP) to handle their logistical tasks so that their new products can be delivered to customers faster. The business firms engage in logistics activities such as material management, processing strategy planning, and the archiving and retrieval of goods information (Kherbash & Mocan, 2015). Logistical services like transportation, distribution, warehousing and storage, sorting facilities, shipping, cargo handling, and inland waterways are typically met by them (Saksoft, 2018).

## **2.7 Empirical review**

In their 2011 review, Navickas, Sujeta, and Vojtovich underlined that investing in logistics was essential to fostering economic growth and examined the literature regarding the functional competencies of logistics systems. Hu, Gan, and Gao (2012) investigated the impact of regional economic growth in the central region of China between 1986 and 2007 on investments in logistics infrastructure. They concluded that co-integration existed between all of the variables and that investments in fixed assets in logistics were influenced by the growth in added value in logistics.

Using the Cobb-Douglas production function, Saatçioğlu and Karaca (2013) investigated how regional differences affected Turkey's transportation infrastructure between 2006 and 2008 and found that improvements to the infrastructure could lessen regional differences. Sezer (2018) used two distinct models to investigate the relationship between communication and logistics and economic growth. The study's findings indicated that infrastructure spending boosted the economy.

## **2.8 Conceptual framework**

The goal of the study is to determine how Zimbabwe's economic growth is impacted by logistics tenets/principles. It is hypothesized that the effectiveness of logistics principles influences Zimbabwe's economic growth. The following is a summary of the conceptual model:

**Figure 1: Conceptual framework**

***Independent Variable Dependent Variable***

|  |  |  |
| --- | --- | --- |
| **Logistics tenets/principles**   * **Transportation** * **Warehousing** * **Inventory control** * **Procurement (sourcing)** * **Reverse logistics** | **---------->** | **Economic growth measure**   * **Infrastructure development** * **Employment creation** * **Gross domestic product (GDP)** |

**Source: Author 2023**

## **2.9 Chapter summary**

In essence, the chapter offered a framework for understanding the logistics tenets, which are the primary area of focus. It began by going over different advocates' definitions of the terms and establishing different points of view on the mutual aspect. It continued by appreciating the literature review conducted by other academics and outlining the connection between economic growth and logistics tenets. This chapter has also examined logistics tenets in an effort to determine their impact on economic growth, as well as the obstacles to achieving it and the tactics that can be applied to strengthen the tenets of logistics on economic growth in Zimbabwe. After noting these findings from various advocates, research has shown that logistics principles have an influence or push on economic gowth.

# **CHAPTER THREE**

# **METHODOLOGY**

## **3.0 Introduction**

At any given time, research methodology offered a method that was systematically applied to address a specific research problem. This section clarified the methodological strategy used to carry out the investigation. This includes the methods for population and sampling, data collection procedures, data analysis techniques, and succinctly outlined presentation techniques.

## **3.1 Research philosophy**

A research philosophy is an opinion on how information about a phenomenon should be obtained, examined, and applied. The different research approach philosophies are included in the term epistemology, which refers to what is known to be true as opposed to doxology, which refers to what is believed to be true.

### **3.1.1 Positivism research philosophy**

In quantitative research, the positivism paradigm is a methodological stance that applies natural science techniques to the study of social science. According to Hammersley (2013), comprehension of real-world phenomena needs to be quantified and backed by data. According to Cohen, Manion, and Marison (2011), as an example, the method by which the researcher maximized the influence of the independent variable on the dependent variable and events through this process. The relationship between an independent variable and one or more dependent variables was found during the course of studying the phenomenon through causal inferences as the results of experimental designs.

As an alternative, positivism assisted the researcher in having a clear understanding of the subjects through empirical tests and procedures like measurements, focus groups, surveys, and sampling. Babbie (2011) proposed that Auguste Comte, who considered humans to be a phenomenon that could be investigated scientifically, is the source of positivism. This suggests that the knowledge gained from positivist researchers may meet high standards for validity, reliability, and population generalization. Let's discuss the benefits and drawbacks of this theoretical approach when it comes to social research so that researchers can make a more informed choice about its use.

* First and foremost, because of the techniques and methods of data collection and analysis based on evidence and statistics, the result of the same phenomenon or event may be acceptable to "imitate for diverse groups or sub-groups of a population in social contexts". As a result, the researchers can use the results of a particular study to make future quantitative predictions with less time and money spent.
* Second, because the research findings are gathered with objectivism epistemology in mind, they can be trusted to support the researcher's various scientific hypotheses (Johnson, 2014). Its reliability can undoubtedly be predicted statistically by using the Cronbach's alpha reliability coefficient to determine the internal consistency or correlation between the variables.
* However, there are some issues with applying this model to social research projects, which implies that measuring phenomena pertaining to an individual's intentions, attitudes, and opinions may be intolerable because these ideas may not be openly observed or measured with reason, experience, or without supporting data (Hammersley, 2013). This makes it evident that there are certain restrictions on further investigation of the abstract conceptualization that is frequently developed around human relationships in educational contexts.

## **3.2 Research design**

A research design, in the opinion of Blumenberg, Cooper, and Schindler (2011), is essential to accomplishing research objectives and responding to research questions. It is a framework that considers the elements that were considered at the time the suitable methodology was accepted, the process used to nominate respondents, and the comprehensive analysis of the data (Flick, 2011). For this study, a descriptive cross-sectional survey was employed. Cross-sectional surveys are those with a single point in time of administration. They give us a glimpse of what is going on in that group at that specific moment. Typically, they adopt an exploratory or descriptive approach that aims to characterize the behavior or attitude. For example, a cross-sectional descriptive survey is the recommended method to use if you want to measure some aspects of client satisfaction.

A descriptive survey provides an answer to the query "what is?" To give a researcher a sense of the circumstances, it explains the variables and the events that are being studied. The use of a survey is appropriate for this research because it is a productive means of gathering data from a targeted subset of the population.

## **3.2 Target population**

According to Simon and Goes (2012), a population is the entire set of people or things that have one or more characteristics in common. The opinion administrative members, management roles, and staff members who are directly involved in the operations of the organizations at National Foods Limited (NFL), in Harare, were the main focus of this study. The rationale behind the inclusion of senior managers in the study was their involvement in the organization's strategic planning process.

## **3.3 Sample size**

A sample is a collection of records, cases, or respondents that carefully represent a subset of the target population (Blumberg, Cooper, and Schindler, 2011). According to Marshall and Rossman (2011), for a study to be useful, the sample size must show enough variability in the experience and necessary statistics. Additionally, a more realistic budget should give the researcher enough time to finish the study, taking into account financial support and time constraints. In certain instances, the results will be more reliable the larger the sample size (Flick, 2011). A sample size of 70 people was included, specifically those in management and administrative positions as well as workers who are directly involved in the operations of the organizations. Respondents were chosen at random from the targeted population using the Krejcie and Morgan Model shown in Fig. 1 below.



**Figure 3.1 Krejcie and Morgan sample size calculator**

*Figure 1: to control the required sample size S of a randomly selected sample from a given finite population of N cases so that, at a 95% confidence level, the sample proportion P will lie between +/-,05 and the population percentage P. (Krejcie and Morgan, 1970).*

Seventy structured questionnaires were randomly selected and distributed to both male and female respondents from different functional departments/partners.

## **3.4 Sampling Methods/ Techniques**

The process of choosing an appropriate sample size for a larger study is known as sampling technique (Bryman, 2012). A probability sampling technique was used to select research participants based on the logistics tenets list of National Foods Limited (NFL) and its different functional divisions, which include inventory control, warehousing, transportation, procurement (sourcing), and reverse logistics. Randomizations are the fundamental building block of a probability sampling technique (Strydom, 2011).

## **3.5 Research instruments**

Structured, open-ended questionnaires were the researcher's primary research tool. Information was generated through the use of questionnaires since they are a quick and efficient way to collect data from a large number of respondents.

### **3.5.1 Questionnaire**

A questionnaire is a tool used in survey research that combines recorded questions that respondents directly answer on the questionnaire form, without the help of an interviewer, in order to collect data, according to Monette, Sullivan, and Dejong (2011). Every questionnaire question was examined by the researcher to make sure it furthered the objectives of the investigation. The researcher employed a few structured questionnaires featuring a five-point Likert scale. The researcher made the questionnaires as easy to read and comprehend as possible for the study participants.

## **3.6 Data collection procedures**

According to Delport, Fouche, and Schurink (2011), a literature review helps to clarify the nature and significance of the research problem that has been identified. First, the researcher used a letter of authorization from the CILT board to enter National Foods Limited Company prior to gathering any data. During the research process, 35 male participants and 35 female respondents were randomly assigned a set of structured questionnaires containing questions in order to gather data regarding the research variables. This approach was used to make sure that all relevant data about the economic growth assessment process and logistics tenets were gathered throughout the study, taking into account the involvement of female participants.

These questionnaires were randomly distributed to managers, administrative staff, and subordinates within the organization, with the expectation that they would be picked up and returned at their convenience. Because they save time during data collection and are simple to analyze, questionnaires are the best option (Oso and Onen, 2011).

## **3.7 Data analysis and presentation methods**

According to Schurink, Fouche, and De Vos (2011), data analysis is the process of giving a large amount of collected information order, significance, and request. Building the collected data into an increasingly manageable structure is a component of quantitative data analysis (Marshall and Rossman, 2011). First, the questionnaires were examined for accuracy, coherence, and completion. After that, the information will be changed, coded, described, and organized to make it easier to understand and conduct additional research. The questionnaires are then coded and computed using SPSS version 21, the Statistical Package for Social Sciences. Using (SPSS), the researcher conducted both descriptive and inferential analysis. Mean and standard deviation were used to achieve the first and second research objectives; correlation analysis was used to determine the relationship between the independent variable (logistics tenets) and dependent variable (economic growth). Pie charts, percentages, and frequencies were used to examine the background information on the staff. Tables were used to present the study's findings, and each table included an explanation of the results.

## **3.8 Reliability and Validity**

Similar to other researchers, the researcher ascertains the accuracy, consistency, veracity, and dependability of quantitative data in order to confirm its validity and reliability (Delport and Roestenburg, 2011). Triangulation, or the comparison of data from multiple sources or data collection methods, was done to confirm the validity (truth value) of research findings (Creswell, 2012).

## **3.9 Ethical consideration**

Ethical considerations apply to all analysts, irrespective of research designs, sampling strategies, techniques, and method selections (Gratton and Jones, 2010). Strydom (2011) reminds researchers that the main goal of any research endeavor should always be to safeguard the human rights and dignity of research participants, even though the ultimate goal is to produce the greatest number of benefits or results. Researchers should consistently expect to adhere to the most notable possible moral guidelines in a logical request, as noted by Maxfield and Babbie (2011). Strydom (2011) provides a detailed moral in this way:

### **3.9.1 Respect for persons**

According to Strydom (2011), this implies that the participants have the right to autonomy, to know the purpose of the study, and to make their own decisions about what will and won't happen to them. In the latter scenario, participants may choose to discontinue the study at any point or choose not to respond to any questions that make them uncomfortable.

### **3.9.2 Openness and honest**

Participants being misled is referred to as deception (Strydom, 2011). This occurs when facts and information are purposefully misrepresented, or when participants or colleagues are not given access to certain information (Strydom, 2011). It is ethically required of researchers to report all of their findings and to not falsify or omit any information. Thus, legitimate and trustworthy research is furthered (Strydom, 2011).

### **3.9.3 Harm avoidance**

Another crucial ethical consideration, as noted by Strydom (2011), is to avoid causing harm to any respondent. It is ethically required of all research projects to protect participants from any discomfort or embarrassment that may arise during the study, to the extent that is both feasible and reasonable (Strydom, 2011).

## **3.10 Chapter summary**

This section reviewed the research methodology used for the study. The intended audience, sampling plan, study design, methods for gathering data, data processing, and data visualization were all explained in detail. Quantitative data from structured questionnaires provided this study with a well-described method to thoroughly comprehend the viewpoints of different stakeholders on cooperation. The preservation of research participants' human rights and dignity should always come first, even though ethical considerations may yield extremely beneficial outcomes (Strydom, 2011).

# **CHAPTER 4**

# **DATA PRESENTATION AND ANALYSIS**

## **4.0 Introduction**

This chapter aims to present and evaluate the field research results regarding the importance of logistics tenants to economic growth. In order to address the aforementioned objectives and provide an answer to the research question, data was analyzed and interpreted. The results were presented using tables, bar graphs, and pie charts, and an effort was made to connect them to existing knowledge or findings from the literature review. For quantitative data, both inferential and descriptive statistics approaches were used to analyze the statistical data. The main themes of the study were discussed using a thematic approach, which was informed by the goals of the study.

## **4.1 Response rate and demographic profile analysis.**

This chapter's section discusses the response rate from the distributed instruments to evaluate the sample's validity and ensure the accuracy and value of the data gathered. Furthermore, an overview of the respondent's background was given because it influences the type of responses they will give.

### **4.1.1 Response rate**

Because of the proportion of questions that are answered, the response rate demonstrates the validity of the study. The response rate also indicates whether there were not enough respondents to allow for a useful interpretation analysis. The response rate of the distributed research instruments is displayed in the table below:

| **Table 4.1 Response rate** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Available | 70 | 100.0 | 100.0 | 100.0 |
| Total | 70 | 100.0 | 100.0 |  |

Source: Primary Data

According to the results, a 100% response rate was possible since all 70 questionnaires that were sent out were returned and could be used for statistical analysis. According to Aduinet al. (2009), a sample must have a minimum response rate of 64% in order for conclusions to be valid. Because the response rate was above 64% with a margin of 36%, the researcher was therefore able to draw meaningful conclusions. As a result, the response was trustworthy for research and additional statistical analysis.

### **4.1.2 Gender of respondents**

The study's conclusions show that women's employment and participation are characterized by a gender imbalance, with a 67% margin of positive skewness towards the male population and a modal class interval of 83% that is attainable in favor of the male population.

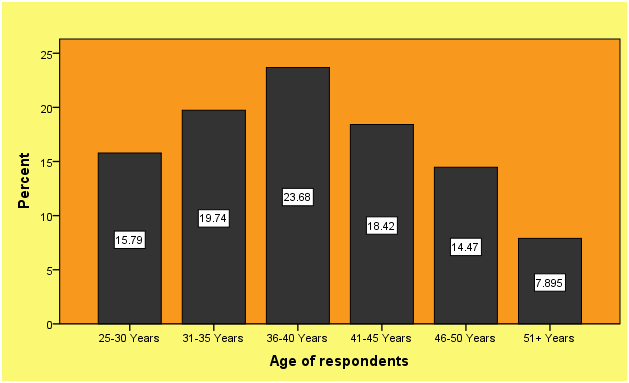
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 4.2 Gender of respondents** | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Male | 164 | 83.2 | 83.2 | 83.2 |
| Female | 33 | 16.8 | 16.8 | 100.0 |
| Total | 197 | 100.0 | 100.0 |  |

Source. Primary Data

The distribution of research in instruments may exhibit allocative inefficiencies, as suggested by the findings. As a result, it is ratified that a supportive policy framework must be established in order to address the disparities in women's access to entrepreneurship, economic participation, and transportation, logistics, and employment opportunities.

### **4.1.3 Age or respondents**

With a 23% vote percentage, respondents in the 36–40 age range made up the modal class. Respondents in the age groups of 31–35, 41–45, 25–30, 46–50, and the least, 51+ years, precede the class interval with frequency votes of 20%, 18%, 16%, 14%, and 8%, in that order. The results exhibit a positive skewness towards participants in the age groups that are economically active. According to Best and Khan's (2013) theory, the working population should be in the economically active age range of 18 to 64. However, different regions use different ranges depending on labor laws and population demographics. The following figure presents the findings:



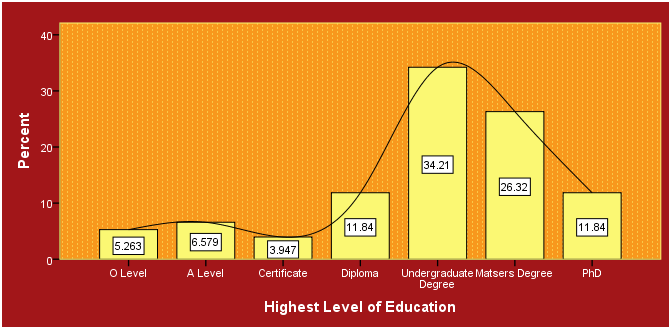
**Figure 4.1: Respondents age**

**Source:** Primary data

The participants are within the economically active age groups and that their organizations are productive since members have high marginal labor returns compared to other age groups which are economically inactive. Also, findings may portray organizational effectiveness in human resources management practices among organizations in the logistics sector as the majority of employees are below the age of 40 and that there is representation of all age groups.

### **4.1.4 Highest level of education**

With a frequency count of 34%, undergraduate degree holders are the modal class. Master's degree holders vote with a vote count of 26%, ahead of both groups. Diploma and PhD holders cast equal votes of 11% each, ahead of O-, A-, and certificate holders, who cast a combined 15% of the votes. A summary of the results is shown in Figure 4.2 below;



**Figure 4.2: Level of education**

**Source:** Primary data

The results depicted in Figure 4.2 demonstrate that the haulage transport industry's organizations possess a remarkably elevated literacy rate, with 85% of the participants holding certificates, diplomas, undergraduate degrees, master's degrees, and doctorates. Furthermore, a positive skewness towards postsecondary qualifications was observed, as indicated by the normal distribution curve inclining towards the respondents' respective levels of education. The logistics industry may have a robust policy for employee training and development, and the organization acknowledges professionalism as part of its organizational culture, according to the findings. The results may also show that there is fierce competition between management and staff as they work to advance their careers and become qualified for new roles within the companies they work for, and that the company's benefits packages are sufficient to draw in qualified workers.

However, on the contrary findings may indicate that there are labour market imperfections; as issues like unemployment may be causing the high literacy rate in the sector, as there are a few large and established firms in the economy which can employ and competently reward highly skilled labour. This holds true on the basis that haulage transport companies have a reputation of failure to attract highly skilled labour due to their inability to remunerate skilled labour, therefore increased unemployment in the economy as there is high labour supply as compared to demand resulting in human factor price diminishing.

This situation may have provided structural competencies to organizations as they can employ highly skilled labour at reasonable factor prices enabling them to competitive through a highly skilled labour force. On the same issue of unemployment, findings from the research may represent creation of haulage transport entrepreneurship resulting from the exit of major firms which resulting in the resurfacing of alike business models by former management and employees in those organizations. These innovations represent survival entrepreneurship, which exhibit traits of growth business models, as members have understating about the products they are commercializing and understand the customers of the business from previous experience.

Convictions to ratify these assertions are founded on the basis that the volume of PhD holders in the sector are more compare to post O and A level students who are entrees in the labour market. Also, PhD holders are very mobile human capital resources, as they are employable in other nations across various sectors, therefore their confidence to remain in local businesses may represent viability of the sector and that there is potential for growth of the sector.

### **4.1.5 Working experience**

According to the respondents, one's exposure to and experience in the field in which they work are influenced by their previous employment. Employees with more years of experience typically have a better understanding of the different organizational management and procedural aspects that impact corporate governance within the industry. The term "working experience" in this context refers to the duration of time that respondents have worked for, overseen, or owned haulage transport businesses. The results show that respondents with a vote count of 50% and 11 to 15 years of work experience make up the modal class. With a frequency vote of 34%, 7%, 6%, and 4%, respectively, respondents in the categories of 16–20 years, 6–10 years, 21 and older, and lastly 0–5 years, come before the value. The results are presented in below:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 4.3 Working Experience** | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 0-5 | 7 | 3.6 | 3.6 | 3.6 |
| 6-10 | 14 | 7.1 | 7.1 | 10.7 |
| 11-15 | 99 | 50.3 | 50.3 | 60.9 |
| 16-20 | 66 | 33.5 | 33.5 | 94.4 |
| 21 and over | 11 | 5.6 | 5.6 | 100.0 |
| Total | 197 | 100.0 | 100.0 |  |

**Source: Primary data**

Since the modal class of working experience is greater than five years, the findings in table 4.3 may indicate that the responses submitted are potentially valid and reliable for use in the research. The results could also demonstrate the effectiveness of the organization's human resources management strategy in terms of employee retention and attrition reduction. The findings could also indicate that the companies are mature, with fewer job openings being generated, as evidenced by the high proportion of employees with 11 years or more of work experience and the gradual decline in value of employees with fewer than 5 years of experience.

## **4.2 Reliability analysis**

This section of the chapter presents on the overall reliability of the findings from the research based on the Cronbach’s Alpha Test. A total of 42 variables was analysed for the total of 70 respondents as donated by the value of N. Total reliability if item was deleted was provided to identify the fitness and contribution of individual variables to the total reliability of the data set. Newman (2011) notes that a reliability value of ≥ 0.7 is acceptable as is warrants the findings as reliable. Findings from the research are tabulated below;

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 4.4 Case Processing Summary** | | | | | |
|  | | | | N | % |
| Cases | Valid | | | 70 | 100.0 |
| Excludeda | | | 0 | .0 |
| Total | | | 70 | 100.0 |
| a. Listwise deletion based on all variables in the procedure. | | | | | |
| **Reliability Statistics** | | |
| Cronbach's Alpha | | N of Items |
| .889 | | 22 |

**Source:** Primary Data

An alpha value of 0.889 could be obtained from the study. According to the research's conclusions, since the data has surpassed the alpha value of 0.7 and allows for trustworthy analysis of the findings, it can be concluded that the data was reliable.

## **4.3 Perception and culture**

This chapter's section discusses the variables influencing how logistic practices are perceived and valued in society. The results are summarized in Table 4.5 below;

| **Table 4.5 Drivers towards adoption of good corporate governance** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | N | Min | Max | Mean | Std. Deviation |
| Cultural values of our society encourage us to implement logistics principles. | 70 | 1.00 | 5.00 | 4.0132 | .11471 |
| Logistics principles are in line with our company values | 70 | 1.00 | 5.00 | 4.5395 | .52766 |
| Logistics principles improves our production lead times | 70 | 1.00 | 5.00 | 4.8947 | .60175 |
| Valid N (listwise) | 70 |  |  |  |  |

Source: Primary data

The research's conclusions show that the claim that our society's cultural values motivate us to apply logistics principles has a µ value of 4.01. This might suggest that the organizations value moral behavior and align with how society views business. The company values are in line with logistics principles, according to respondents, as evidenced by the mean score of 4.54, which indicates agreement with the statement. The research's conclusions demonstrated that logistics principles shorten production lead times, as evidenced by the mean vote of 4.87, which indicates agreement with the statement.

## **4.4 Application of logistics tenets**

This section presents findings on the logistics tenets used by organization in the logistics sector as tabulated in table 4.6 below.

**Table 4.6 logistics principles**

|  | N | Min | Max | Mean | Std. Deviation |
| --- | --- | --- | --- | --- | --- |
| Transportation | 70 | 1.00 | 5.00 | 4.3947 | 1.31736 |
| Warehousing | 70 | 1.00 | 5.00 | 4.5781 | .68792 |
| Inventory control | 70 | 1.00 | 5.00 | 4.2763 | 1.38177 |
| Procurement (sourcing) | 70 | 1.00 | 5.00 | 4.4211 | .98337 |
| Reverse logistics | 70 | 1.00 | 5.00 | 4.1579 | 1.21164 |
| Valid N (listwise) | 70 |  |  |  |  |

Source: Primary Data

The research findings, as presented in table 4.7, indicate that organizations utilize transportation as a logistics function. This is supported by a mean vote of 4.39, indicating agreement with the assertion. A mean vote of 4.58 indicates that respondents agreed with the assertion that the organization uses warehousing functions. The organizations employ inventory control, as evidenced by the mean vote of 4.28 indicating agreement with the assertion, which supported the findings.

This might suggest that businesses take an active role in controlling order lead times by choosing the right amount of inventory. The study's conclusions demonstrated that procurement departments are used by organizations as a logistical strategy, as indicated by the mean vote of 4.42, which indicates agreement with the statement. This suggested that the company will have high-quality, reasonably priced products for its essential value-adding operations.

The reverse logistics function is utilized by organizations, as indicated by the mean vote of 4.16, which indicates that respondents find the assertion agreeable. This might suggest that the companies are concerned about the environment and are benefiting technically from trade through cost reduction and innovative logistical practices.

## **4.5 Contributions of logistics tenets to economic growth**

This section of the chapter presents findings on the contributions of logistics tenets to economic growth. The findings are tabulated on table 4.7 below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 4.7 Contributions of logistics tenets to economic growth** | | | | | |
|  | N | Min | Max | Mean | Std. Deviation |
| Our organization is actively participating in infrastructure development. | 70 | 1.00 | 5.00 | 4.2000 | 1.17461 |
| Our supply chain members are collaborating in the development of infrastructure. | 70 | 1.00 | 5.00 | 4.4143 | .94013 |
| There are improved employment opportunities | 70 | 1.00 | 5.00 | 4.3571 | 1.00773 |
| Reduced costs of staff turnover | 70 | 1.00 | 5.00 | 3.9857 | 1.05628 |
| Our organization has improved in corporate social responsibility (CSC). | 70 | 1.00 | 5.00 | 3.8000 | .98687 |
| Our organization has benefited from competitive advantage. | 70 | 1.00 | 5.00 | 4.6714 | .75607 |
| Our organization has improved on productivity | 70 | 2.00 | 5.00 | 4.3143 | .90958 |
| Valid N (listwise) | 70 |  |  |  |  |

Source: Primary data

The research's conclusions demonstrated that companies in the industry are actively involved in infrastructure development projects, as indicated by a mean vote of 4.2 indicating agreement with the statement. The logistics industry is a space-intensive industry that needs capital infusions for the establishment of physical capital, such as buildings and land, according to findings. The research findings indicate that there are collisions occurring in the process of infrastructure development as organizations collaborate to develop infrastructure, as indicated by the mean vote of 4.41 indicating agreement with the assertion.

The improvement in access to employment opportunities was noted by respondents, as indicated by a mean vote of 4.36 indicating agreement with the assertion. Additionally, respondents agreed that staff turnover costs have decreased, as evidenced by a mean vote of 4.00 indicating agreement with the statement. This might suggest that the sector is extremely competitive and that human resources are crucial, which explains the high pay and favorable working conditions. The labor returns from the establishment of these logistics companies directly support economic expansion and national revenue.

The research's conclusions demonstrated that the industry's CSR initiatives directly support community development, as indicated by the mean vote of 3.8 that indicates agreement with the statement. Respondents pointed out that their organizations have benefited largely from the competitive advantages inherent in the organization as witnessed by a mean vote of 4.7. Respondents also pointed out that their organization has benefited from improved productivity as witnessed by a mean vote of 4.3 showing agreeableness to the assertion. This may indicate that the organizations have improved capacity for value addition contributing directly to increased national income.

## **4.6 Challenges in the application of logistics tenets/principles to foster economic growth**

Thus, section of the chapter presents on the constraints to the establishment of the application of logistics tenets/principles to foster economic growth. The findings are tabulated on table 4.8 below:

| **Table 4.8 Constraints to the establishment of good corporate governance practices** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  | N | Min | Max | Mean | Std. Deviation |
| Intensification of conflict of interest. | 70 | 1.00 | 5.00 | 4.2237 | .66531 |
| Organisational culture not challenging poor transport morals. | 70 | 1.00 | 5.00 | 4.3158 | .75207 |
| Lack of training on technical logistics and transport service | 70 | 1.00 | 5.00 | 4.3816 | 1.19963 |
| Complex structures as multiple stakeholders involved in malpractice and breach. | 70 | 1.00 | 5.00 | 4.5263 | .99965 |
| High compliance costs in licencing | 70 | 1.00 | 5.00 | 4.7105 | 1.12920 |
| Poorly defined board composition and structure | 70 | 1.00 | 5.00 | 4.3684 | 1.28418 |
| Valid N (listwise) | 70 |  |  |  |  |

Source: Primary Data

Findings on table 4.6 of the research exposed that the intensification of conflict of interests has been attributed to be a major constrain towards the development of the logistics sector as witnessed by a mean vote of 4.22 showing agreeableness to the assertion. Respondents pointed out that the lack of training to both managers and employees on issues of modern trends in logistical management and their implication to the overall company performance has been identified as a major constrain as witnessed by a mean vote of 4.38 showing agreeableness to the assertion.

The multiplicity of enforcement agents and stakeholders involved in the breach of sound governance and unethical practices has complicated the issues of enforcing sound corporate governance as witnessed by a mean vote of 4.52 showing agreeableness to the assertion. Findings may indicate that due to high levels of corruption innocent drivers may be lured to pay bribes to enforcement agents that they may limited choice to disagree on against their will. Thus, the challenge of enforcing sound governance is multifaceted and affects other third parties that are not in the direct control of the organization.

High costs of compliance to licenses, fines and regulatory requirements have been identified as a major constrain to effective improvising of sound governance in the haulage transport sector as witnessed by a mean vote of 4.37 showing agreeableness to the assertion. Findings may indicate that haulage transport operator will tend to find avoidance strategies through bribing officials to reduce the costs of compliance.

The structure and composition have been identified as constraining factors of effective logistics practice as witnessed by a mean vote of 4.37 showing agreeableness to the assertion. This indicates that some of the company board members are not vested with skills in corporate governance and auditing thus rendering the company less competitive in addressing issues affecting sound management of the organizations.

## **4.7 Logistics strategy**

This section of the chapter presence on the strategic options that can be adopted to promote the development of the logistics sector for the improvement of economic growth and development. The findings are tabulated in table 4.9 below.

| **Table 4.9 Logistics strategy** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | N | Min | Max | Mean | Std. Deviation |
| The organisation must promote formal training in the modern trends in logistics. | 70 | 1.00 | 5.00 | 4.2763 | 1.22853 |
| Management must be actively involved in the administration of issues on management of the organisations. | 70 | 1.00 | 5.00 | 4.4868 | 1.12538 |
| The management should promote the corporate culture towards the advocating of improved performance. | 70 | 1.00 | 5.00 | 4.2500 | 1.28712 |
| Management should provide incentives for outstanding employees for performance. | 70 | 1.00 | 5.00 | 4.6711 | 1.08797 |
| The organisation should stipulate effective logistical practices as key result areas of performance of the organisation. | 70 | 1.00 | 5.00 | 4.2105 | 1.13509 |
| The organisation should promote whistle blowing | 70 | 1.00 | 5.00 | 4.0132 | 1.18314 |
| Valid N (listwise) | 70 |  |  |  |  |

**Source**: Primary Data

The research's conclusions demonstrated that the company should formally train management and staff on current developments in the logistics industry, as indicated by a mean vote of 4.28 indicating agreement with the statement. As evidenced by a mean vote of 4.49 indicating agreement with the assertion, research findings also revealed that management ought to be actively involved in the management of logistics organizations and issues impacting the organization. This confirms that management ought to be at the forefront of creating procedures that ensure the organization is managed well.

Furthermore, as evidenced by a mean vote of 4.21 indicating agreement with the assertion, the management of the organization should consider adherence to efficient logistical practices as a critical performance outcome area. A mean vote of 4.25 indicates agreement with the assertion that the organizational culture should support the instillation and enforcement of efficient logistical practices. Outstanding workers in logistical practices should receive motivational incentives, as evidenced by a mean vote of 4.61 indicating agreement with the statement.

## **4.8 Inferential statistics**

This section of the chapter presents on the statistics pertaining to the cause-and-effect relations among key variables of the research as presented in sections below.

### **4.8.1 Factor analysis**

The goal of this chapter's section is to condense the data by aggregating it into more manageable groups. A set of underlying variables, known as factors, which are smaller than the observed variables, are thought to be able to explain the interrelationships among a collection of observed variables. This is the fundamental premise of factor analysis.

Due to the ease of use of scale variables in this research study, the factor analysis was carried out using the principal component analysis method. Before using the reduced number of related variables in multivariate analysis of variance or multiple regression, the method was used to reduce a large number of related variables to a more manageable number. A factor analysis that is exploratory in nature can be used to investigate the relationships between variables because of its simplicity.

#### 4.8.1.1 Correlation matrix

The correlation coefficients between each variable in the study and each other variable are displayed in a straightforward rectangular array of numbers called a correlation matrix. Since a variable's correlation coefficient with itself is always 1, 1s can be found on the correlation matrix's principal diagonal. If any pair of variables in the correlation matrix has a value less than 0.3, you should think about eliminating one of them from the analysis (Palland, 2008).

| **Table 4.10 Correlation Matrix** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Age | Wkex | Educ | Positio | BEP1 | BEP4 | BEP5 | BEP6 | BEP7 | BEP8 | BEP10 | BEP9 | SBS14 | SBS15 | SBS17 | SBS18 | SBS19 | SBO23 | BRG26 | BRG29 | BRG30 | BRG31 | BRG32 | BRG39 | BRG40 |
| Correlation | Age | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Wkex | .332 | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Edu | .570 | .110 | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Positio | .773 | .041 | .876 | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BEP1 | .492 | .002 | .414 | -.096 | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BEP4 | .700 | -.132 | .501 | .125 | .025 | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BEP5 | .361 | .265 | -.055 | .268 | .088 | .025 | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BEP6 | .687 | .123 | .732 | .164 | .040 | .310 | .265 | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BEP7 | .382 | .018 | .351 | .110 | .038 | .244 | .123 | .328 | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BEP8 | .810 | .116 | .337 | .046 | .156 | -.028 | .256 | .170 | .128 | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BEP10 | -.415 | .260 | -.475 | .245 | .008 | .192 | .264 | .390 | .323 | .470 | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BEP9 | -.902 | .259 | .951 | .275 | .064 | .162 | .426 | .259 | .249 | .393 | .411 | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SBS14 | .390 | -.127 | -.106 | -.161 | -.037 | -.039 | -.202 | -.160 | -.106 | .240 | .069 | .118 | 1.000 |  |  |  |  |  |  |  |  |  |  |  |  |
| SBS15 | .254 | -.198 | .384 | .089 | -.177 | .092 | -.294 | .074 | .194 | -.206 | .020 | -.107 | .153 | 1.000 |  |  |  |  |  |  |  |  |  |  |  |
| SBS17 | .486 | -.144 | .740 | -.149 | -.033 | -.123 | -.251 | -.371 | -.087 | -.023 | -.093 | -.165 | .574 | .387 | 1.000 |  |  |  |  |  |  |  |  |  |  |
| SBS18 | .514 | -.069 | .310 | -.139 | -.064 | -.023 | -.395 | -.321 | -.105 | -.233 | -.258 | -.149 | .358 | .437 | .654 | 1.000 |  |  |  |  |  |  |  |  |  |
| SBS19 | .796 | -.191 | .820 | -.075 | -.082 | .088 | -.605 | -.159 | -.144 | -.071 | -.140 | -.359 | .412 | .480 | .571 | .681 | 1.000 |  |  |  |  |  |  |  |  |
| SBO23 | .443 | .297 | .536 | .081 | -.286 | .048 | -.026 | .104 | .082 | -.238 | .087 | -.132 | -.025 | .409 | .097 | .205 | .180 | 1.000 |  |  |  |  |  |  |  |
| BRG26 | .582 | -.158 | .442 | -.165 | -.018 | -.006 | -.392 | -.104 | -.288 | .065 | -.190 | -.183 | .695 | .235 | .460 | .462 | .603 | .056 | 1.000 |  |  |  |  |  |  |
| BRG29 | .631 | -.023 | .416 | -.107 | -.027 | -.185 | -.348 | -.317 | -.200 | -.052 | -.136 | -.075 | .623 | .312 | .593 | .618 | .460 | .058 | .599 | 1.000 |  |  |  |  |  |
| BRG30 | .384 | -.111 | .779 | .158 | -.092 | .108 | -.341 | -.104 | -.154 | .003 | -.084 | -.133 | .393 | .433 | .385 | .585 | .565 | .170 | .588 | .660 | 1.000 |  |  |  |  |
| BRG31 | .991 | -.208 | .358 | -.160 | -.062 | -.050 | -.494 | -.260 | .027 | .003 | -.142 | -.219 | .530 | .467 | .658 | .714 | .635 | .141 | .614 | .706 | .647 | 1.000 |  |  |  |
| BRG32 | .492 | -.177 | .516 | -.040 | -.026 | -.215 | -.263 | -.080 | -.036 | .118 | .031 | -.002 | .633 | .303 | .552 | .521 | .513 | .112 | .613 | .701 | .579 | .671 | 1.000 |  |  |
| BRG39 | .354 | .117 | .260 | .172 | -.158 | .054 | .070 | .193 | .118 | -.060 | .209 | .058 | -.211 | .278 | -.138 | -.002 | .029 | .407 | -.238 | -.166 | .036 | -.038 | -.023 | 1.000 |  |
| BRG40 | .885 | .316 | .994 | .184 | -.168 | .087 | .308 | .257 | .182 | -.160 | .165 | .246 | -.244 | .267 | -.096 | .044 | -.095 | .461 | -.369 | -.214 | -.039 | -.143 | -.165 | .724 | 1.000 |

Source: Primary Data

With reference to the correlation matrix all the majority of the pairs have exceed 0.3, and for values greater than 0.3 they are statistically fit to continue to the KMO and Bertlett’s

#### 4.8.1.2 KMO and Bartlett's Test

In order to proceed with a satisfactory factor analysis, the KMO measures the sampling adequacy, which determines whether or not the responses provided with the sample are adequate. This value must be closer to 0.5.

| **Table 4.11 KMO and Bartlett's Test** | | |
| --- | --- | --- |
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .879 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 3036.461 |
| df | 1035 |
| Sig. | .000 |

Source: Primary Data

According to Palland (2008), the Barlett's Test of Sphericity value should be significant (i.e., the Sig. value should be.05 or smaller) and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value should be.6 or above. Factor analysis is appropriate because the KMO value is.879 and the Bartlett's test is significant (p=.000).

#### 4.8.1.4 Communalities

The majority of the variance is shown by communities; therefore, a communality value of more than 0.5 should be taken into consideration for additional analysis. Factor analysis) in the variables has been explained by the extracted factors; otherwise, these variables are to be eliminated from subsequent steps. This is the percentage of variance in each variable that the factors (e.g., the underlying latent continua) can account for. Results showed that every variable had a value greater than 0.5, so it is safe to recommend that these variables be subjected to additional statistical analysis.

| **Communalities** | | |
| --- | --- | --- |
|  | Initial | Extraction |
| Age of respondents | 1.000 | .769 |
| Working Experience | 1.000 | .759 |
| Highest Level of Education | 1.000 | .746 |
| Cultural values of our society encourage us to implement logistics principles. | 1.000 | .153 |
| Logistics principles are in line with our company values | 1.000 | .678 |
| Logistics principles improves our production lead times | 1.000 | .624 |
| Complex structures as multiple stakeholders involved in malpractice and breach. | 1.000 | .624 |
| Transportation | 1.000 | .757 |
| Warehousing | 1.000 | .813 |
| Inventory control | 1.000 | .840 |
| Procurement (sourcing) | 1.000 | .723 |
| Reverse logistics | 1.000 | .727 |
| Our organization is actively participating in infrastructure development. | 1.000 | .726 |
| Our supply chain members are collaborating in the development of infrastructure. | 1.000 | .801 |
| There are improved employment opportunities | 1.000 | .832 |
| Reduced costs of staff turnover | 1.000 | .839 |
| Our organization has improved in corporate social responsibility (CSC). | 1.000 | .742 |
| Our organization has benefited from competitive advantage. | 1.000 | .682 |
| Our organization has improved on productivity | 1.000 | .624 |
| Intensification of conflict of interest. | 1.000 | .736 |
| Organisational culture not challenging poor transport morals. | 1.000 | .865 |
| Lack of training on technical logistics and transport service | 1.000 | .746 |
| Complex structures as multiple stakeholders involved in malpractice and breach. | 1.000 | .762 |
|  | | |
| Extraction Method: Principal Component Analysis. | | |

Source: Primary Data

#### 4.8.1.5 Total variance explained

The number of extracted factors, whose sum should equal the number of items that underwent factor analysis, is reflected in the eigenvalue. The research's conclusions are displayed in a table.

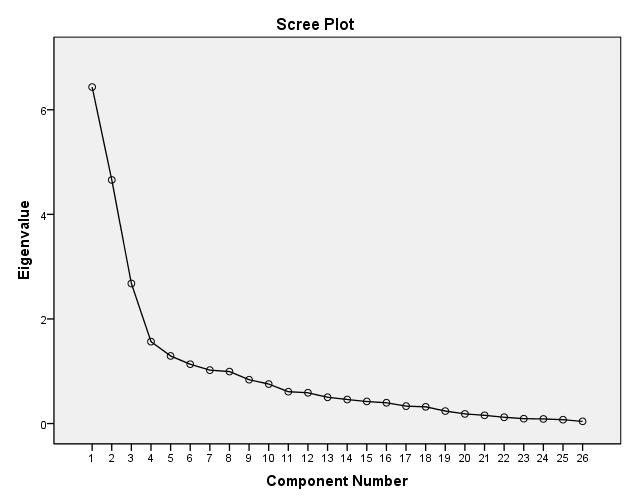
| **Total Variance Explained** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
| Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 6.435 | 24.749 | 24.749 | 6.435 | 24.749 | 24.749 |
| 2 | 4.659 | 17.918 | 42.667 | 4.659 | 17.918 | 42.667 |
| 3 | 2.678 | 10.299 | 52.966 | 2.678 | 10.299 | 52.966 |
| 4 | 1.566 | 6.025 | 58.990 | 1.566 | 6.025 | 58.990 |
| 5 | 1.292 | 4.969 | 63.959 | 1.292 | 4.969 | 63.959 |
| 6 | 1.134 | 4.363 | 68.322 | 1.134 | 4.363 | 68.322 |
| 7 | 1.021 | 3.928 | 72.250 | 1.021 | 3.928 | 72.250 |
| 8 | .994 | 3.824 | 76.074 |  |  |  |
| 9 | .838 | 3.224 | 79.298 |  |  |  |
| 10 | .755 | 2.903 | 82.201 |  |  |  |
| 11 | .609 | 2.342 | 84.542 |  |  |  |
| 12 | .588 | 2.263 | 86.806 |  |  |  |
| 13 | .502 | 1.932 | 88.738 |  |  |  |
| 14 | .460 | 1.769 | 90.506 |  |  |  |
| 15 | .422 | 1.622 | 92.128 |  |  |  |
| 16 | .397 | 1.528 | 93.657 |  |  |  |
| 17 | .333 | 1.280 | 94.937 |  |  |  |
| 18 | .320 | 1.231 | 96.167 |  |  |  |
| 19 | .238 | .917 | 97.084 |  |  |  |
| 20 | .184 | .708 | 97.793 |  |  |  |
| 21 | .157 | .605 | 98.398 |  |  |  |
| 22 | .120 | .463 | 98.861 |  |  |  |
| 23 | .092 | .356 | 99.216 |  |  |  |
| 24 | .089 | .341 | 99.557 |  |  |  |
| 25 | .073 | .282 | 99.839 |  |  |  |
| 26 | .042 | .161 | 100.000 |  |  |  |
| Extraction Method: Principal Component Analysis. | | | | | | |

Source: Primary data

Eigenvalues that exceed 1.00 contribute to 72% of all the variables that were subjected for analysis ratifying that they were statistically significant.

#### 4.8.1.6 Scree Plot

A graph of the eigenvalues against each factor is called a scree plot. The graph helps in figuring out how many factors to keep. As seen in figure 4.4 below, the point of interest is where the curve begins to flatten:



**Figure: 4.3 Scree plot**

**Source:** Primary Data

Based on the analysis conducted, it is advisable to proceed with further statistical examination of the first 7 variables. This recommendation is based on the fact that their respective eigenvalues surpass the threshold of 1, indicating their significance in the analysis. In the context of statistical analysis, it has been determined that any variable starting from 4 and onwards should be excluded from consideration. The provided information comprehensively addresses all aspects of the primary concepts examined in the research study.

#### 4.8.1.7 Component Matrix

The analysis that is being presented here shows how each item is loaded onto each of the four components. The Kaiser criterion is utilized, which retains all components with eigenvalues greater than 1 by default. The decision to exclude variable loadings below 0.3 was made purposefully, as these values do not demonstrate statistical significance.

| **Component Matrixa** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Component | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Age of respondents |  |  |  | -.336 | .735 |  |  |
| Working Experience |  |  | .308 | -.431 | .305 | .482 |  |
| Highest Level of Education |  | .560 |  |  |  |  | .625 |
| Age of respondents |  | .356 |  |  |  |  |  |
| Working Experience | .479 |  | .445 | -.443 |  |  |  |
| Highest Level of Education | .565 |  | .447 |  |  |  |  |
| Cultural values of our society encourage us to implement logistics principles. | .338 |  | .326 |  | .498 | -.748 |  |
| Logistics principles are in line with our company values | .316 |  |  | .650 | .435 |  |  |
| Logistics principles improves our production lead times |  |  | .640 |  |  |  | .471 |
| Complex structures as multiple stakeholders involved in malpractice and breach. |  | -.396 | .667 |  |  |  |  |
| Transportation | .326 | .427 | .650 |  |  |  |  |
| Warehousing | .809 |  | .375 |  |  |  |  |
| Inventory control | .726 |  | .426 |  |  |  |  |
| Procurement (sourcing) |  | .668 |  | .458 |  |  |  |
| Reverse logistics | .614 | .456 |  |  |  | .504 |  |
| Our organization is actively participating in infrastructure development. | .737 | .458 |  |  |  |  |  |
| Our supply chain members are collaborating in the development of infrastructure. | .870 |  |  |  |  |  |  |
| There are improved employment opportunities | .814 |  |  |  |  |  |  |
| Reduced costs of staff turnover |  | .697 |  |  |  |  |  |
| Our organization has improved in corporate social responsibility (CSC). |  | .578 |  |  |  | .471 |  |
| Our organization has benefited from competitive advantage. |  | .729 |  |  |  | -.301 |  |
| Our organization has improved on productivity | .462 | .708 |  |  |  |  |  |
| Intensification of conflict of interest. | .351 | .645 |  |  |  |  |  |
| Organisational culture not challenging poor transport morals. | .509 | .612 |  |  |  |  |  |
| Lack of training on technical logistics and transport service | .624 | .383 |  |  |  |  |  |
| Extraction Method: Principal Component Analysis. | | | | | | | |
| a. 7 components extracted. | | | | | | | |

**Source:** primary data

The majority of the items load fairly strongly (above.4) on all seven components, according to the table's findings, supporting the accuracy of the scree plot. These variables can now be used to do additional statistical analysis in relationship testing by establishing the relationships between the variables through bivariate analysis.

## **4.9 Hypothesis testing**

The three main hypotheses that were employed in the study are validated in this section. The causal relationship between the variables was ascertained using Pearson correlations.

### **4.9.1 Hypothesis 1: Infrastructure development is positively related to economic growth***.*

|  | | Our organization is actively participating in infrastructure development. | Our supply chain members are collaborating in the development of infrastructure. |
| --- | --- | --- | --- |
| Our organization is actively participating in infrastructure development. | Pearson Correlation | 1 |  |
| Sig. (2-tailed) |  |  |
| N | 197 |  |
| Our supply chain members are collaborating in the development of infrastructure. | Pearson Correlation | .376 | 1 |
| Sig. (2-tailed) | .128 |  |
| N | 197 | 197 |

**Source:** Primary Data

The study's conclusions show a strong correlation between economic expansion and infrastructure development. There appears to be a moderately positive correlation (r = 0.376) between these variables. Furthermore, statistical significance for this correlation is indicated by the significance level (sig = 0.128). Thus, it can be said that the application of infrastructure development practices, through logistics practices, positively affects the country's economic growth. The data indicates that the null hypothesis which holds that there is a negative correlation between infrastructure development and economic growth should be rejected.

### **4.9.2 Hypothesis 2: Employment creation is positively related to economic growth.**

|  | | There are improved employment opportunities | Reduced costs of staff turnover |
| --- | --- | --- | --- |
| There are improved employment opportunities | Pearson Correlation | 1 |  |
| Sig. (2-tailed) |  |  |
| N | 76 |  |
| Reduced costs of staff turnover | Pearson Correlation | .335 | 1 |
| Sig. (2-tailed) | .765 |  |
| N | 76 | 76 |
| N | 76 | 76 |

**Source:** Primary data

The study's results indicate that employment creation and economic growth are positively correlated, as indicated by the correlation coefficient of 0.335. The results demonstrate how the operations of logistics companies directly raise national income through creating jobs. This means that the null hypothesis that employment and economic growth have a negative relationship can be safely rejected.

### **4.9.3 Hypothesis 3: Gross domestic product is positively related to economic growth.**

|  | | Our organization has benefited from competitive advantage. | Our organization has improved on productivity |
| --- | --- | --- | --- |
| Our organization has benefited from competitive advantage. | Pearson Correlation | 1 |  |
| Sig. (2-tailed) |  |  |
| N | 76 |  |
| Our organization has improved on productivity | Pearson Correlation | .418 | 1 |
| Sig. (2-tailed) | .875 |  |
| N | 76 | 76 |

**Source:** Primary Data

The research indicates a positive correlation between economic growth and gross domestic product, as indicated by the correlation coefficient of 0.418. This confirms that the logistics industry's value-adding operations directly support economic expansion. The null hypothesis that there is a negative relationship between GDP and economic growth may be rejected in light of the findings.

## **4.10 Chapter summary**

This chapter aims to present and analyze the field research findings regarding the contribution of the logistics industry to the expansion and growth of the economy. One of the main conclusions was that logistics companies are crucial to the growth of the economy. Furthermore, there's a positive correlation between economic growth and infrastructure development. The study's recommendations and conclusions are examined in the following chapter.

# **CHAPTER FIVE**

# **CONCLUSION AND RECOMMENDATIONS**

## **5.0 Introduction**

The study's objective was to ascertain how logistics tenets are applied and how NFL in Zimbabwe experiences economic growth as a result. As a result, the summary of the results, conclusion, advice, and ideas for additional research are covered in this chapter.

## **5.2 Summary of the findings**

The study is divided into five chapters that cover the following topics in ascending order: problem introduction, literature review, research methodology, findings presentation, and, at the end, conclusions and recommendations. The study aimed to ascertain the existing correlation between logistics tenets/principles and economic growth, assess the impact of logistics tenets on economic growth, recognize the obstacles confronting the logistics sector in enhancing economic growth, and ultimately suggest logistics tactics that augment economic growth in Zimbabwe. In the data mining process, the researcher used positivism, quantitative descriptive research designs, and a random sample of seventy respondents. Instruments for gathering data were questionnaires.

The study's conclusions showed that reverse logistics principles promote sustainable supply chain value chains and enhance infrastructure development, job creation, and the NFL's gross domestic product. The results also examine how high capital investments and the cooperation of all supply chain partners are necessary for logistics practices such as transportation, warehousing, inventory control, procurement, and reverse logistics. The results show that there is a lack of support from the government in the form of rules and assistance. Another obstacle that the logistics sector must overcome to enhance economic growth as production is impacted is outdated infrastructure and power outages. The COVID-19 pandemic has created a variety of risks that have caused diversions at the start and finish of supply chains, resulting in a multitude of issues with supply and demand.

The strategies listed below were suggested by the study. Supply chain integrations, a supportive action that includes planning, implementing, and controlling the flow of people and goods within organizations like the NFL, were suggested as ways to overcome the difficulties. These activities aid and support the supply chain process. The main conclusion drawn from the research is that logistics principles and economic growth are positively correlated, with the factors that impact infrastructure development both internally and externally namely, deteriorating infrastructure, power shortages, a lack of government support, and the global pandemic significantly underestimating the performance of the supply chain.

## **5.3 Conclusions**

### **5.3.1 The NFL's current logistics tenets**

* Transportation fosters inter- or intra-city connections during urbanization, which supports socioeconomic growth and a higher standard of living. Specifically, the development of transportation infrastructure has the potential to reduce travel expenses, attract foreign investment, and expand trade among shared resources.
* Because the fundamental ideas, tenets, and applications of warehousing have expanded and gained value, warehouses are now critical to the competitiveness of businesses. In order for businesses to stay competitive and achieve full supply chain sustainability, they need a sustainable warehouse.
* Inventory management, which includes coordinating a company's policies to effectively manage NFL inventory. Raw materials, work-in-progress products, and finished goods are all included in inventories. Companies such as the NFL follow their inventory management policies to make sure that they don't overstock or understock their operations. Inadequate inventory control may cause stock to be locked up, preventing visibility in the NFL supply chains' upstream and downstream nodes.
* The NFL's procurement procedures are essential to the accomplishment of positive project implementation. An efficient, well-defined procurement process guarantees that NFL will always have the right materials, in the right quantities, from the right suppliers, at the right prices.
* Every administration in the world has put in place rules to direct the efficient disposal of goods, and these policies are unique to each nation and sector of the economy. Additionally, consumers are growing more aware of environmental issues and green practices. This has increased the pressure on businesses like the NFL to improve FMCG reverse logistics procedures.

### **5.3.2 The effects of logistics tenets on economic growth.**

* Investments in the economy's roads, trains, and airports also rise, are modernized, expanded, and occasionally import goods from around the globe.
* Infrastructure development also promotes economic growth, lowers the price of commodities, provides access to global producers and customer markets, and increases the cost-effectiveness of global manufacturing.
* Agricultural activities, the foundation of NFL operations for the provision of raw materials and finished products, provide a noticeable amount of direct employment creation and income for 60–70% of Zimbabwe's population, but agriculture, forestry, and fishing contributed only 12% of Zimbabwe's GDP in 2018. Investments in physical infrastructure create a better business environment and improve transport efficiency, which facilitates export growth.

### **5.3.3 Challenges being faced by logistics industry in improving economic growth**

* Most African countries, especially those that are landlocked, face significant challenges to trade, competitiveness, and sustainable development due to inadequate infrastructure and a lack of intermodal transport systems.
* Regarding the financial difficulties associated with reverse logistics, it was discovered that the beverage industry faces more difficulties with reverse logistics than any other sector. Specifically, the high cost of capital and the inability to cut costs are major obstacles. However, it was discovered that another difficulty is people's ignorance of the cost of reverse logistics. Inadequate information systems and technology exist to implement reverse logistics in an efficient manner.
* Zimbabwe's electricity sector is in disarray, and relying too heavily on a small number of large-scale centers of generation poses a risk. Zimbabwe's energy output has decreased due to low water levels in Kariba Dam and other hydroelectric plants, as well as increasingly malfunctioning machinery at both Kariba and the thermal power plant at Hwange Colliery.
* Specifically, the initial supply chain disruptions caused by the COVID-19 pandemic compelled corporations such as the NFL to promptly modify their supply chains by implementing alternate sources, rerouting operations, and reducing workforce. Estimating the various impacts that COVID-19 had on Zimbabwe's various logistics sectors; significant uncertainties regarding product availability and suppliers' delivery schedules; and businesses not receiving goods and services in the necessary quantity or at the desired price.

### **5.3.4 Strategies that can be used to enhance economic growth in Zimbabwe**

* The transport system that supports international economic relations to create a global network of exchange of goods and transfer of capital goods among nations using a variety of transport modes has been explained by a review of logistics and the transport sector.

## **5.4 Recommendations**

• A review of logistics and the transport sector has explained the transport system that supports international economic relations to create a global network of exchange of goods and transfer of capital goods among nations using a variety of transport modes. A push toward synchronization of the entire supply chain is key to facilitate a smooth and coordinated movement of goods and services.

### **5.4.1 Recommendations to NFL**

* In their supply chain operations, FMCGs must treat supply chain partners as strategic partners. FMCG companies need to create cross-functional teams to manage logistics principles and educate both customers and staff on the value of efficient and effective supply chain management.
* Secondly, we want to proactively encourage the cooperative advancement of all modes of transportation. A logistics firm now handles the transportation of containers, vans, special cargo, multimodal, and a number of other innovative modes of transportation in order to increase logistics efficiency and enhance the logistics service function of the necessary needs.
* In order to encourage consumers to recycle their waste back into the value chain, it is necessary to set up strategically placed, easily accessible waste collection points as well as to recreate financial incentives. It is imperative to establish remanufacturing capabilities for all waste materials on a local level by investing in advanced technological systems. In cases where remanufacturing is not feasible, appropriate disposal options must be considered.
* Participation in surveys and business relations culture may moderate the effects of reverse logistics factors and have different effects on the performance of the firm. The study supports the idea that senior management should educate staff members on the value of product returns, remanufacturing, reusing, recycling, repackaging, and proper waste disposal techniques. This would encourage the adoption of reverse logistics techniques by numerous organizations and help raise awareness of them. In a similar vein, senior management should formalize the implementation of reverse logistics by developing guidelines and rules and ensuring that staff members are fully informed of them. Reverse logistics is a strategy that management should explore in order to improve social, economic, and environmental performance in addition to organizational performance.
* The report also suggests that FMCG businesses think about collaborating on reverse logistics. Utilizing a partner's skills and sharing abilities would increase efficiency, reliability, and quality. The partners in the reverse supply chain could improve flexibility and lower uncertainty in the reverse flows by exchanging information. In addition to increasing competitive advantage, the reverse logistics partners' strategic agreement would help reduce the burden of financial risk through risk sharing.

### **5.4.2 Suggestions for the Zimbabwean government**

* In order to support reverse logistics of NFL products and lessen adverse environmental effects, the government must actively collaborate with organizations starting logistics tenets practices and enforce green policies. For companies starting reverse logistics, the government must also provide financial incentives like tax breaks in order to promote green supply chain management in Zimbabwe.
* The Zimbabwean government and EMA, one of the country's regulatory bodies, need to make an effort to fund FMCG companies' successful adoption of reverse logistics techniques**.**

### **5.4.3 Suggestions for the clients**

* Since customers are essential in starting the return flow of the redundant or inconsequential components of the products they buy, they are encouraged to fully assist in the reverse logistics initiatives started by FMCG companies.

## **5.5 Study limitations**

The researcher has noted several restrictions with this investigation.

* First off, all other industries in the nation were ignored in favour of focusing solely on NFL Company in Harare in this study, which means that a large number of the logistics principles' practices are not applied in the FMCG or manufacturing sectors. Thus, in order to expand the body of knowledge regarding logistics tenets and practices in the context of Zimbabwe, future research should also carry out more qualitative studies across a variety of industries.
* The researcher also had to deal with time constraints. If the study had been given enough time, it would have been convenient.

## **5.6 Upcoming studies**

More research needs to be done on how senior management influences an organization's adoption of logistics principles. The connection between the principles of logistics and the expansion of other processing and manufacturing companies' economies warrants further research.

Despite the fact that this study is not exhaustive, it could serve as a well-considered first step toward the development of the theoretical domain of logistics tenets. Future research needs to focus on both broadening the domain by taking into account more factors and refining and strengthening the constructs found in this study.

Finally, a study on how culture affects the adoption of logistics principles might be approved. This would help with comprehending the

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# **APPENDIX I – RESEARCH QUESTIONNAIRE**

To The Respondent,

I'm Tafadzwa Gundiro, a student at the Chartered Institute of Logistics and Transport (CILT) pursuing an Advanced Diploma. My candidate number is ADVH131626). Please refer to the topic below as I am researching the principles and tenets of logistics.

Would you please help by completing this survey? Please be aware that although the research's primary goal is academic, it may also have practical applications for logistics companies and their associated partners. No respondent will be identified by name or by any other means, and the responses will be treated with strict confidentiality.

You can reach the researcher by email at tafadzwagundiro@gmail.com or by phone at (+263) 773 518 979 for more information. Your assistance would be greatly valued.

Sincerely, yours

Gundiro Tafadzwa

**TOPIC:** **DRIVING ECONOMIC GROWTH THROUGH APPLICATION OF LOGISTICS TENETS. A CASE OF NATIONAL FOODS LIMITED, HARARE, ZIMBABWE.**

**Overarching Goal**

This study aims to assess how National Foods Limited, located in Harare, Zimbabwe, uses logistics principles to drive economic growth. There are six sections to this questionnaire:

1. General information of the respondent
2. Perception and culture
3. Applicability of Logistics Principles (LP)
4. Effect of LP on economic growth
5. Challenges of LP on economic growth
6. Logistics strategies

**SECTION ONE: GENERAL INFORMATION OF THE RESPONDENT**

***(Please provide your information on space provided)***

|  |  |  |
| --- | --- | --- |
| GI1 | Position |  |
| GI2 | Years of experience |  |
| GI3 | Highest qualification |  |
| GI4 | Area of specialization |  |
| GI5 | Gender |  |

**SECTION TWO: PERCEPTION AND CULTURE**

Please indicate the degree to which the logistics tenets and principles have been incorporated into your organization's culture. On a 5-point scale, indicate how much you agree or disagree (1 being strongly agree and 5 being strongly disagree).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Perception and Culture** | **1** | **2** | **3** | **4** | **5** |
| PC1 | Cultural values of our society encourage us to implement logistics principles. |  |  |  |  |  |
| PC2 | Logistics principles are in line with our company values |  |  |  |  |  |
| PC3 | Logistics principles improves our production lead times |  |  |  |  |  |

**SECTION THREE: APPLICATION OF LOGISTICS PRINCIPLES**

Please check the appropriate boxes to indicate how well your company has applied the following Logistics Principles (LP). On a 5-point scale, indicate how much you agree or disagree (1 being strongly agree and 5 being strongly disagree).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Logistics tenets** | **1** | **2** | **3** | **4** | **5** |
| LP1 | Transportation |  |  |  |  |  |
| LP2 | Warehousing |  |  |  |  |  |
| LP3 | Inventory control |  |  |  |  |  |
| LP4 | Procurement (sourcing) |  |  |  |  |  |
| LP5 | Reverse logistics |  |  |  |  |  |
| **SECTION FOUR : ECONOMIC GROWTH (EG)**  Tick the appropriate boxes to indicate the degree to which your company's Economic Growth metrics have improved since implementing logistics principles. On a 5-point scale, indicate how much you agree or disagree (1 being strongly agree and 5 being strongly disagree). | | | | | | |
|  | **Economic Growth** | **1** | **2** | **3** | **4** | **5** |
| EG1 | **Infrastructure development** | | | | | |
|  | Our organization is actively participating in infrastructure development. |  |  |  |  |  |
| Our supply chain members are collaborating in the development of infrastructure. |  |  |  |  |  |
| EG2 | **Employment creation** | | | | | |
|  | There are improved employment opportunities |  |  |  |  |  |
| Reduced costs of staff turnover |  |  |  |  |  |
| Our organization has improved in corporate social responsibility (CSC). |  |  |  |  |  |
| EG3 | **Gross domestic product** | | | | | |
|  | Our organization has benefited from competitive advantage. |  |  |  |  |  |
| Our organization has improved on productivity |  |  |  |  |  |

**SECTION FIVE: OBSTACLES TO ECONOMIC GROWTH**

To what degree, in your opinion, does your organization encounter difficulties applying logistics tenets and principles to promote economic growth? Please check the appropriate option from 1 (strongly agree) to 5 (strongly disagree) out of the five available options.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Challenges** | **1** | **2** | **3** | **4** | **5** |
| C1 | Deteriorated infrastructure |  |  |  |  |  |
| C2 | Power shortages |  |  |  |  |  |
| C3 | Covid-19 pandemic |  |  |  |  |  |

**SECTION SIX: LOGISTIC STRATEGY**

How much, in your opinion, does your company use any of the logistics techniques to support economic growth? Please check the appropriate option from 1 (strongly agree) to 5 (strongly disagree) out of the five available options.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Logistics strategy** | **1** | **2** | **3** | **4** | **5** |
| LS1 | **Supply chain integration** | | | | | |
|  | Our supply chain is willing to collaborate and comply with environmental regulations |  |  |  |  |  |
| Our value chain partners seek to improve on road networks |  |  |  |  |  |

**THANK YOU FOR YOUR TIME.**

# **APPENDIX II – AUTHORIZATION LETTER**