**BINDURA UNIVERSITY OF SCIENCE EDUCATION**

**FACULTY OF COMMERCE**

**DEPARTMENT OF ECONOMICS**

 

**AN ANALYSIS ON THE IMPACT OF COVID-19 PANDEMIC ON LOGISTICAL PERFORMANCE OF AN ORGANISATION. A CASE STUDY OF NAVIDALE TEXTILES.**

**BY**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE BACHELOR OF COMMERCE HONORS DEGREE IN PURCHASING AND SUPPLY OF BINDURA UNIVERSITY OF SCIENCE EDUCATION FACULTY OF COMMERCE.**

**SUBMITTED ON**

**30/06/2022**

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The undersigned certify that they have supervised, read and recommend to the Bindura University of Science Education for acceptance a research project entitled: **AN ANAYLYSIS ON THE IMPACT OF COVID-19 PANDEMIC ON LOGISTICAL PERFORMANCE OF AN ORGANISATION. A CASE STUDY OF NAVIDALE TEXTILES.** By Jabulani Sigauke in partial fulfilment of the requirements for the **Bachelor of Commerce in Purchasing and Supply Degree Program**

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# DEDICATION

This piece of work is dedicated to Let's Give Them Hope (LGTH) organization for its unwavering support. It has really played a significant role in moulding my career path and may the Almighty bless you so much. Special mention also goes to my cousin Adonis, my mom, my friends Dennis and Wendy for their encouragement and giving me a shoulder to lean on.

# ABSTRACT

A Force Majeure disguised by Covid 19 mask, stroke the global business environment leading to logistics performances problems, which were last seen during the World War II period. This gave the researcher the motive to analyse the impact of Covid 19 pandemic on logistical performances using a case study of Navidale Textile Private Limited. The research seek to achieve objectives of the study which were as follows; to highlight the challenges of logistics performance management caused by Covid 19 at Navidale Textile; to explore how Covid-19 impacts logistics performance at Navidale Textile; and to recommend best logistics performance management strategies that curb negative impact of Covid 19 at Navidale Textile. The population was 187 and using Yamane formula to determine 127 as the sample size. Due to Covid 19 regulations of social distance interviews and questionnaires were send and replied through the email. Reliability and validity test was done on the questionnaire using the Cronbach Alpha coefficient and Product Moment Pearson Correlation respectively computing with SPSS software. A SWOT analysis with a PESTLE scrutiny on the Opportunities and Threats was utilised to surface the magnitude of logistical gaps opened by the emerging of Covid 19 pandemic. The researcher used mean, mode, variance, skewness and standard deviation to access the extent which Covid 19 influenced the logistics performance at Navidale. The results showed that Navidale was impacted negatively to a greater level and positively to a lesser extent. The positives were Navidale was allowed to operate during the lockdown period while other firms were closed. Secondly, there was an opening of indispensable ready available protective clothing market for providing things like face masks. However, negative impacts or challenges of the study which were found were delays in logistics due to police road blocks, verifications and inspections. Moreover there was an increase in orders being cancelled because of lockdowns, trade restrictions and embargos imposed world over. More Emergency logistics procedures as compared to previous periods were also conducted due to Covid 19. As if it is not enough, more logistics cost due to Covid 19 which includes; the cost on obtaining operating licence which is a requirement when crossing police road blocks when conducting both inbound or out bound logistics; reverse logistics cost due to payment of environmental disposal penalty fee as customers are wrongly disposing their disposable masks and packaging materials with Navidale brand name; and then reordering costs since international suppliers are failing to supply, were observed. More so, findings surfaced that Navidale was having frequent stock outs, longer order cycle time, stoppages in production and received the highest record of complaints from customers for late deliveries, especially on their protective clothing line. Furthermore, school uniform demand dropped when schools where closed due to lockdown. Therefore, Navidale felt the bullwhip effect of holding inventory and production logistics problems also stroke. Recommendation were; there is need for Navidale to ramp up alterative products, suppliers and additional supply options; there is need to outsource inbound and out bound logistics while the company concentrate on production and reverse logistic; there is need for logistic capacity to reduce replenishment lead-times; and last but not least Navidale to have a proactive approach on logistics while enhancing its demand forecasting technics so as to cater for Force Majeure and hence, avoid bullwhip impact and any other logistic challenge

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# CHAPTER I

# INTRODUCTION

## 1.0 Introduction

The research sought to evaluate the impact of Covid-19 on the organisation’s logistical performance paying particular attention to Navidale Textiles (Private) Limited. While, this chapter outlines a short analysis of the background of the study, problem statement, and assumptions of the study, the objectives and the delimitation of the study. More so, limitations, definition of key terms and the chapter summary are also included.

## 1.1 Background of the study

### 1.1.1 Globally

For years now, worldwide plagues have been causing devastating logistical mayhem and the mystery remain unsolved. As transportation is a big problem in the lockdown due to closed borders, acquiring the license or police blocking movement. More so, the advent of Corona virus (Covid-19) pandemonium surfaced the prevailing problem to an alarming state and is set to cause more disruptions to the calendar. According to Copper and Schindler, (2013), it is possible to gain competitive advantage leverage by perfecting the supply chain activities, these include procurement, logistics and storage.

According to Hui et al, (2020) early December 2019, a wide-ranging of COVID-19, caused by (SARS-CoV-2), transpired in Wuhan City, Hubei Province, China. World Health Organization (WHO) confirmed the incidence as a Public Emergency Health wise of Global Concern. Tang et al, (2020) proposes that it is probable to have an advanced procreative quantity than SARS, and additional number of people have been confirmed to have been diseased or died from Covid 19 than SARS. As of February 14, 2020, 49,053 research laboratory investigations established that the infections caused more than 1,381, 908 deaths were reported globally, (Gorbalenya, 2021). Apparent peril of obtaining the disease has led many governments to establish a range of measures to control which had an impact on the logistics function.

World over businesses need to always be prepared to solve logistical problems caused by appearance of pandemics like Covid-19 because they always emanate and also they are unpredictable. A century ago in 1918 the Spanish flu weakened logistical systems of many firms leading to their collapse. Failing to analyse and have a backup plan for this situation makes organisations to fall in the same trap over and over again. Solution like risk analyses, forecasting and supply chain visibility were theorised, most firms fail to implement them. Christopher, (2020) suggested that covid-19 caused strategic drifts in many firms. The impact of Covid-19 has succeed to paralyse both inbound and outbound logistics functions. Lockdowns and quarantines cause those potential customers which were supposed to stop buying meaning most firms are stroked by the bullwhip effect. Meanwhile of the outbound all expected deliveries are either delayed (due to increase on verification processes and road blocks) or stopped from moving by the higher authorities that is the governments and the United Nations (UN).

Manufacturing industries are the largely affected by the impact of Covid-19 on logistical performances, (Brorson and Larsson, 2019). Most firms have no measures in place to mitigate Covid-19 impact on their logistical performance. In addition, organisations also lacks the ability to account for Covid-19 related logistical costs and savings in physical and monetary terms (Gichaaga, 2019). As for issues that relates to the future epidemics revolution there is an increased pressure on organisations to reduce the negative impact on the logistics performance (Kucharski and Althaus, 2015). Using the circumstance arises the need for implementation of current management systems in the operations of the firm, particularly in the supply chain activities, (Hassini 2008). According to Muza, (2020) logistical task offers management with the whole life costs and increases the efficacy of the company’s commercial activities, abating to fully enhance its utility offers antagonistic results.

The coronavirus outbreak (COVID-19) has disturbed business cycles and supply chains, and the logistics function is facing the impact of it. To realise full potential of Logistics Management organisations must focus on logistics performance as a strategic tool to consider carefully their supply chains and create synergies that offer competitive advantages. As much as following Covid 19 national and international regulation is vital to an organisation, finding ways to adapt to the harsh conditions which surface during this moment is mutual important world (United Nations, 2020). In American, organisation are continuously encouraged to improve their logistical strategies to match or exceed the efficacy of those used during the time of World Word 2, (Campus, 2019).

### 1.1.2 Regionally

 In Africa, few business were prepare to meet the logistical challenges effected by Covid 19, especially West Africa which was currently weakened by the Ebola virus from 2014 to 2018. While the impact of Covid 19 in other countries started to be felt in 2019, some nations were pardoned during that period. In Africa, Covid 19 was most prevalent in South Africa. Most logistics movements were stopped so as to curb Covid 19 situation. In 2020, the World Bank noted operational constraints in both small and top players in the supply chain sector, leading to delivery delays, congestion, and higher freight rates. Due to the insufficiency of a recovery plan, most small players in the transport and logistics sector have been severely hit, leading to the closure of operations.

### 1.1.3 Nationally

In Zimbabwe, Covid 19 officially started it reign the 2020 and completely paralysed other firms but at the same time it gave competitive advantage to other firm, especially those who provide basic needs and means to protect against Corona virus. Textile industry was also spared as it provide means for protection and basic needs. Jianhua Xu and Zongchao Peng, (2015) suggested that the problem remains in both outbound and inbound logistics. Navidale Textile’s logistics costs have increased significantly with an alarming rate of 78%, (Navidale Financial reports, 2020). Inventory management is also very poor resulting in frequent stock-outs and slow moving out of those goods which creased demand because of Covid-19. This has negatively affected the company’s market competitiveness. 70% of the organisation’s customers have registered their displeasure at the way the company manages its logistics (Navidale Customer Satisfaction Survey Report, 2019). The logistical challenges have often times caused serious disruptions both within the organisation and in the wider supply chain network.

Since 1918, tprocurement and supply chain activities is very vital topic field whilst it has little available literature. Therefore, the study seeks to explore the application of an efficient logistical performances at Navidale Textile in the period where pandemics like Covid 19 blocks movement of both goods and information. In addition, the researcher sought to study the impact of the impact of Covid-19 on the organisation’s logistical performance paying particular attention to Navidale Textiles (Private) Limited.

## 1.2 Statement of the problem

Regardless of all solid strategic effort made to enhance logistics in the past years, Covid-19 stood to construct big performance gaps in logistics. Navidale Textile’s Report as at 30 April 2020 shows that logistical overheads have increased by an alarming rate of 78%, and major costs were incurred in the last 3 months. In spite to control Covid-19, Governments all over the world imposed trade restriction and logistical barriers. To Navidale Textile, there was a blockade on goods in transit as international suppliers communicated that they were under Force Majeure. The company encountered frequent stock outs, longer order cycle time, stoppages in production and received the highest record of complaints from customers for late deliveries as compared to previous years. Navidale was forced to constantly restructure its procurement blueprint, creating budgeting variances by reordering goods from local suppliers. 30 March 2020 Zimbabwean total Covid-19 lockdown stroked and the logistics crisis amplified.

## 1.3 Overall Objective of the study

The central purpose of this study is to carry out a survey on how Covid-19 impacts logistics performance.

## 1.4 Specific Research Objectives

The specific objectives of the study are:

1. To highlight the challenges of logistics performance management caused by Covid 19 at Navidale Textile.
2. To explore how Covid-19 impacts logistics performance at Navidale Textile.
3. To recommend best logistics performance management strategies that curb negative impact of Covid 19 at Navidale Textile.

## 1.5 Research Questions

The research questions to the study are:

1. What challenges of logistics performance management caused by Covid 19 at Navidale Textile?
2. How does Covid-19 impact logistics performance at Navidale Textile?
3. What logistics performance management strategies can be used to curb negative impact of Covid 19 at Navidale Textile?

## 1.6 Significance of the Study

### 1.6.1. To Navidale Textiles

This study enriches and encourages the Navidale Textile to improve implementation of logistics performance management strategies.

### 1.6.2. To the academia

This research sought to improve the university’s library for scholars and other researchers who need to carry out similar studies. Opens possibilities for the university to implement some of the recommendations devising from the research.

### 1.6.3. To the researcher

This done is completed in partial fulfilment for the requirements of the respective Honours degree and facilitates an understanding of how Covid-19 does impacts logistics performance at Navidale Textile.

### 1.7 Assumptions

 In the study the researcher makes the following assumptions.

1. Participants are to answer candidly.
2. Navidale Textile is an ongoing organization.
3. The researcher got all the records necessary details for the research study from the Navidale Textile.
4. The research was conducted well and fully completed within the time frame.
5. The present set up at the Navidale Textile do not change during the course of the research study.

## 1.8 Limitation of the study

* Limited access to information. In order to prevail over this the researcher requested permission from the Managing Director (MD) backed with the letter from the university which gave assurance that the data obtained is for educational purposes. Another form of information access barriers where caused by Covid 19 social distancing regulations. The researcher utilised non-physical platforms i.e. online and telephone to collected data without bleaching Covid 19 regulations.
* Inadequate Resources. The researcher had limited resources to partake the study, which included limited time and money. To rectify these limitations the researcher spared weekends and nights towards the research. Sampling techniques and other cheaper and appropriate methods were utilised such as online questionnaires, telephone interviews and secondary information where necessary.

## 1.9 Delimitation of the study

The research was restricted to a case study at the Navidale Textiles head office staff located at bay 4, Conald road, Graniteside, Harare. The study have a short limit from the period of 2019-2020.

## Definition of operational terms

**Lockdown:** the confining of people to their homes, typically to regain control during of the situation during a pandemic and to also avoid the spread of the disease.

**Covid-19:** is a pandemic of coronavirus disease which was first identified in Wuhan, Hubei, China in December 2019 (COVID-19) caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), (Heymann, 2020)

**Logistics:** Logistics encompasses all the information and material flows throughout an organization, it is the process of strategically managing the parts and finished inventory (and related information flow) through the organization at cost effective fulfilment of orders (Christopher, 2010)

## 1.9 Chapter Summary

This chapter looked at the introduction of the study, the background of the study, the objectives of the study as well as the problem statement. The chapter also focused on the significance of the research to the researcher and to the Navidale Textile.

# CHAPTER II

# LITERATURE REVIEW

## 2.0 Introduction

This chapter sought to present necessary information taken from journals, text books and all other authentic sources of data from scholars within the research’s scope which addresses the researcher’s topic, research questions and the research objectives.

## 2.1 Conceptual Framework

Covid 19

Logistic

Performance

 Impact

**Source: Primary, (2022)**

Figure 2. 1: Relationships between research variables

Figure 2.1 above shows a conceptual framework which was developed by the researcher using primary data to show the relationship between the independent variables and dependent variable. The dependent variable is the logistics performance and the independent variables is Covid 19 pandemic. The variables has their sub variables. On the independent variable side there is lockdown restrictions, changes in consumer buying behaviour, verifications, inspections, trade restriction and logistical barriers while sub dependent variables are procurement logistics, in bound logistics, out bound logistics, production logistics and reverse logistics.

### 2.1.1 Covid-19 Pandemic

Wallrauch, et al. (2020) postulated that Covid-19 is similar to Swine flu, Spanish flu, SARS-CoV and MERS-CoV, disrupting the chain of transmission suggested by Wilson, (2009) is considered key to stopping the spread of disease. Globally, lockdown was one of the immediate measure taken by world governments which originated from China authorities and hence had slowed the global spread of COVID-19. This caused organisations to shut down including schools, mines, and other sectors of business which reduced targeted customer for textile industries. However, new venture were opened for things like faces mask and any other protection from Covid-19. Trade restriction were also inserted which created more logistics barriers globally.

Air travel were also minimised to limit the cases unless severe medical attention was required. Setting up temperature check or scanning is mandatory at airport, road block, border and operating organisations entry to identify the suspected cases. Researchers and authors suggests that continued study into the virus is critical to trace the source of the outbreak and provide evidence for future outbreak at same time allowing smooth logistical flow, (Ristovska, 2019; Kozuharov, 2020; and Petkovski, 2020).

### 2.1.2 Logistics Performance Management

The Professional logistics are known as Shipping, Airport, and freight forwarder and these includes movement and management of cargo, documents, inventory, inventory management software, performance-based logistics, returns management system, reverse logistics and sales territory. The determination behind production logistics is to guarantee that each machine and workstation is being nurtured with the right product in the right quantity and quality at the right time, while excellent material handling is practiced. The success of logistics performance management is determined through the combination of efficiency, effectiveness and differentiation. (Fugate et al., 2010) postulated that it gives competitive advantage. There is Emergency Logistics which meant for transporting goods or objects rapidly in the event of any crisis which leads to production delay or communication disappointment. Eventually, supply chain management measures through procrastination affect price or cost, product’s quality, innovation.

### 2.2 Theoretical Framework

This theory is very important on this research as it explains what affected Navidale textile. As this is just literature review the researcher explains only the theory and the analysis is on chapter 4.

### 2.2.1 PESTLE Analysis: Theory

Harvard professor Francis Aguilar in 1967 developed a theory called ETPS analysis now commonly known as PESTLE. PESTLE is an abbreviation for Political, Ethical, Social, Technological, Legal and Ecological. For years pestle has been used to assess the external factors influence or impact on an organization, so as to avoid creating strategic drifts when making operational blue prints. Social Factors emphasis on the community and identify emerging trends and affects the customers’ needs and wants. Social Factors include changing family demographics, education levels, cultural trends, attitude changes and changes in lifestyles. Technological Factors study the rate of high-tech innovation and development that affects a market or industry Technological Factors includes changes in digital or mobile technology, automation, research and development.

 Developments consideration must be gave to new methods of distribution, manufacturing and also logistics. Environmental Factors communicate the influence of the surrounding environment and the impact of ecological aspects e.g. climate, recycling procedures, carbon footprint, waste disposal and sustainability. Legal Factors must be understood within the territories an organisation operate in. change in legislation and the impact this may have on business operations. Include employment legislation, consumer law, health and safety, international as well as trade regulation and restrictions. A company plans its functions i.e. logistical system knowing paradigm shifts.

### 2.2.2 Supply Chain Visibility Theory

McIntire, (2014), advocated that supply chain visibility is gradually sought ideally in the logistics world, for industries of all kinds. With the paradigm shifts, the inner workings of the business world at large, logistics partners linked through the supply chain have come to expect a higher level of communication, as well as easier, faster access to valuable information. Effective supply chain visibility is the one with complete data which is readily available, timely, and accurate and in a format that communicates necessary information (Pettit, 2008). If Supply chain visibility is in place when external environment changes a company quickly adapts. Therefore, supply chain visibility enabling organizations to develop greater responsiveness. Supply chain visibility also includes information technology, information exchange, business intelligence gathering, tracking systems and knowledge of asset status.

Supply chain confidence is created through sharing information such as current inventory position, procurement status, manufacturing schedules, distribution reliability, order status and demand forecasts, creating a strong relationship between the buyer and supplier (Christopher et al., 2004).Therefore, threats to logistics function like corona virus is quickly identified and accounted for before any damages is made. Thus is brings that proactive aspect in logistics. Synchronisation of sales predictions and the supply chain assists in helping suppliers to anticipate future demands.

### 2.2.3 Transaction Cost Theory (TCT)

This theory was developed by Williamson (1985) and it determines logistics strategic chooses by a firm where the lowest costs from transactions are to be found. Logistics is not about mere movement, it has cost implications thus this movement has to be efficient. That means a company can only incur cost it has anticipated, any changes the company can quickly adjust because of the agility gained by a firm after applying this concepts. It promotes to accomplish a job without using much resources but giving preserving the optimal value. Any anticipated problems are evaluated e.g. the issue of Covid 19 and solutions are put in place before the issue makes harm on the firm. It works hand to hand with supply chain visibility. Enabling movement of goods at the lowest possibility cost and anticipating both internal and external risks.

### 2.2.4 Gap theory

Alderson, (1954) developed the gap theory which defines logistics goals. The theory suggest that logistics has 5 gaps to cover which are information gap, variety gap, quantity gap, space gap and time gap. Where space gaps physical distance between suppliers and customers requires movement of goods and material discuss with e.g. cotton farmer in Chinhoyi and consumers in Harare. Time gaps is non synchronization between production and consumption, for example cotton is grown in winter but clothes are consumed all year round. Quantity gap is economies of scale, decreasing cost industries, mass production. Variety gaps is different kinds of things demanded by consumers and different places these things are found. Information gaps is the processing of relevant data into useable information e.g. knowledge about the impact of Covid 19 on logistics makes a company to plan for in advances and close the gaps before they turn into pitfalls. Gaps overcame efficiently, within the above mentioned gaps, it is the function of logistics to ensure that gaps are filled at the least cost.

## SWOT analysis: Theory

SWOT is an abbreviation which expressive stands for Strength, Weakness, Opportunity and Threats. Hills and Westbrook (1997) suggested that this business strategic analytical tool is for gauging strengths and weaknesses of a firm, examining existing business opportunities, as well as, threats opposing the business. Strengths and weaknesses are core factors whilst opportunities and threats are outward factors. SWOT Analysis is therefore an important instrument for situation analysis that give assistances to the managers in this case logistics function to identify organizational and environmental factors.

## 2.3 Empirical Evidence

Journals from different parts of the world were used elaborate the impact of Covid 19 on logistics performance. The research selected empirical evidence related and relevant to the studied topic. The chosen empirical literature gives assistances to illustrate the study gap between past and the contemporary study. From the conceptual framework, it was shown that Wallrauch, et al. (2020) postulated that Covid-19 is similar to Swine flu, Spanish flu, Ebola, SARS-CoV and MERS-CoV, disrupting the chain of transmission suggested by Wilson, (2009) is considered key to stopping the spread of disease. There, some literature are borrowed as there is no published researcher who has studied about the impact of Covid 19 on logistics up to date.

**The impact of the 1918-19 Spanish flu epidemic on Logistics performance in Sweden Pichler et al, (2014)**

In Europe, Pichler et al, (2014) studied how Spanish flu epidemic on Logistics performance in Sweden. The research was aimed to avoid logistics performance problems if another pandemic arises similar to Spanish flu i.e. Covid 19. The study illustrated that Spanish flu was blameable for 82.5 % of logistics performance disruptions in Sweden, and by that time it was very essential to measure and manage of impact of Covid 19 on logistics performances so as quickly adapt to the situation. The researchers used secondary data and interviewed those people who witnessed the situation. From a total sample size of 170 participants were chosen and an Ordinary Least Squares design with descriptive discussions was used. Findings were that most Sweden firms did not anticipate coming of the Spanish flu in their country, neither did they anticipate the PESTEL changings, therefore they did not clearly redefined logistics and company policies to account cope with these changes. In his recommendations he recommended that companies need to have tools which considers external environment even pandemics before they cause serious disruptions in their business activities.

**Logistical Risks of Influenza Pandemics: The Evolution of Perception and Behavior. Jianhua Xu and Zongchao Peng, (2015**)

The objective of the study was to track influenzas plagues and review logistic strategies which was used in China by successful firms to continue in operation and gain competitive advantage. The researchers with this devastating trend of flue they anticipated another flue to strike later in the future and Covid 19 surely did. The pandemics were Spanish flu (1918-19), SARS-CoV (2002) Swine flu (2009) and MERS-CoV (2012). The research data was collected through the use secondary data 290 companies data were used sample. A Correlational research method was applied and findings were that most of the successful companies used electronic and computerised systems to anticipate and facilitate detection of logistics risks attached to Influenza Pandemics. While, those which fail were still using the traditional logistics management practices which was not comprehensive to the situation. The researchers went on to give recommendations that modern logistics performance management technics are to be implemented in such times.

**The Economic Impact of Pandemic Influenza in the United Kingdom: Priorities for Intervention Heymann and Fukuda, (2020).**

Heymann and Fukuda (2020) conducted research the Economic Impact of Pandemic Influenza in the United Kingdom: Priorities for Intervention. Although it was not centred on logistics, the study was broad enough to cover some implications on the logistics related to influenza pandemics. A Causal-Comparative or Quasi-Experimental research approach using the Covid-19 situation to have more realistic findings and recommendations. Data collected was analysed by means of both SPSS and Excel and was presented in tables and figures. The researcher settled a new outline on analytical grounds. The study also made suggestions basing on existing literature and 5 separate empirical studies were conducted to evaluate the propositions and validate suggested methods. The findings which were logistics related were influenza pandemics causes problems not just in movement but in all logistical functions, packaging inventory, reverse logistics and even communication of the ordering process. Additionally, their findings also revealed that there was a significant relationship between logistics function activities and cost reduction as the independent variables were statistically significant at the 95% confidence i.e. p value<0.05. Furthermore, the findings established that the government situation control regulations were creating more barriers to logistics. The researcher recommended that public companies should be pioneers of creating logistics methods which are safe making it easy for private companies to survive the situation. The study also recommended that policy makers, need to pay closer attention to technological capacity to reduce logistical cost and create flexibility, which enumerated the lowest mean of 2.09 occurrences.

**Impact of the Ebola Virus Disease Outbreak on Supply Chain Management Performance of West Africa Textile Firms by Obanda (2016)**

According to Obanda, (2016) in West Africa 600 billion U.S. Dollars was lost because of poor supply chain management practices in the textile industry. This study aim to establish the relevance of Supply Chain Management Performance in West Africa Textile Firms during the Ebola virus outbreak. The researcher used multi-pronged methodology to address research objectives and data gathering to source both primary and secondary data, thus Emailed open-ended questionnaires, interviews, focus group discussion and company document analysis. The researcher developed a new framework on analytical grounds.40 entities that operates in West Africa were used as sample and sample size determined using Yamane’s formula. The sample targeted businesses listed on the stock exchange, only private sector textile industry firms. The research findings revealed that most of these firms were working towards accomplishing a vibrant logistical performance. Other findings revealed that their supply chain systems were a bit outdated and due to lack of resources they were finding it hard to upgrade. Recommendations suggested includes that these firms need to increase education programmes, training, campaigns and policies to improve the understanding and attitude towards Ebola pandemic to adapt to this setting.

## 2.4 The Research Gap

Literature have review that, although scholars have tried to established facts the impact of influence of influenza pandemic on logistics performance. Neither of them, researched the impact of Covid 19 on logistics performance and neither was it studied in a Zimbabwean setting. In addition, the adoption and implementation logistics especially when pandemics like Covid 19 strike is still poor that most firms are closing because of failing to manage their logistics function adequately countries around the globe including developing countries such as Zimbabwe where this research is based. Therefore, the research feels there is a gap still need to be filled.

## 2.5 Summary

This chapter looked at the conceptual, theoretical and empirical framework of the study. The next chapter three presents on the research methodology.

**CHAPTER III**

**RESEARCH METHODOLOGY**

**3.0 Introduction**

The previous chapter reviewed literature. This chapter is on data collecting methods, research instruments, population and sampling techniques, and data processing, analysis and presentation procedures and ethical considerations.

**3.1 Research Design**

An exploratory mixed research methods was used with a descriptive statistical characteristic about the impact of Covid 19 on logistics performance of Navidale Textiles. The drive for having a mixed research design is to guarantee all sides of the story. A case study of Navidale Textiles was also used to fill the gap. The Case study design also defines how, when and where facts are collected and how consideration was made on a practical setting.

**3.2 Population**

McDaniel and Gates, (2002) suggests that population is the total number of elements under investigation. In this study, the targeted population constituted a team of all employees who are primary accountable and involved in the Logistics activities of Navidale Textiles. The target population for the study encompass of 187 employees of Navidale in the procurement, operations or production, distribution, logistics, marketing and finance.

**3.3 Sample Size**

Braun and Clarke, (2006) recommended that a representative sample size is the number of surveillance in a subset of the population under investigation. The researcher used Yamane equation to create the sample size. Below are Yamane equation;

 The Yamane equation is n = N . Where n = Sample size

 1+Ne2 N= Population size

 e = Margin of error

***Source: Yamane, (1967)***

the research’s total target population size according to table 3.1 is equals to 187 it have 5% margin of errorwhich is the same with that used in the study; **The Economic Impact of Pandemic Influenza in the United Kingdom: Priorities for Intervention Heymann and Fukuda, (2020).** Population size is the same range and (Yamane, 1967) mentions that.Therefore, using the formula N/ (1+Ne2) the sample size equals. 187/ [1+187x (0.05)2]= 127 participants.

**3.4 Sampling procedures**

The researcher used random sampling to select the candidates who participated on the research from the targeted population. The sampling used had advantages of that it eliminates cost and time in preparing the sample and more relevant, reliable and accurate data were obtained. However, there were uncontrolled variability in the approximations.

**3.5 Sources of Data**

**3.5.1 Secondary sources**

According to Wimmie & Dominic, (2013) secondary data is the records that have previously existed and that was collected for other purposes other than what the researcher is planning to use it for. To confirm the presence of the problem, the secondary information was acquired from various journal articles, textbooks and thesis

**3.5.2 Primary sources**

Primary data for this research was gathered by the use of closed-ended questionnaire and interviews which were emailed to the respondents due to Covid 19 regulation of social distance.

**3.6 Data Collection Instruments**

Both the use of an emailed questionnaire and interviews were also used to collect qualitative information.

**3.6.1 Questionnaire**

A questionnaire is defined as an in print and inscribed set of questions with definite choices of answers for the purposes of a statistical study (Zohrabi, 2013). Most of these information can be easily computed through secondary data (company’s internal record) but this questionnaire answering approach is also targeting on testing the company’s supply chain visibility and distribution of information since its part of logistics. Obanda (2016), who studied the impact of the Ebola Virus Disease Outbreak on Supply Chain Management Performance of West Africa Textile Firms also used the same format to test the supply chain visibility on textile firms. 6 point **Likert Scale** to the questionnaire emailed to the respondents was used when collection data, scaling of responses in survey research. The Likert Scale of this research used by the researcher is as follows,

**Never: 1**

**Rarely: 2**

**Sometimes: 3**

**Often: 4**

**Mostly: 5**

**Always: 6**

A well-built questionnaire which had many advantages and few disadvantages to be mentioned. Mailed questionnaire gave the participants an opportunity to answer and participant at their own convenient time. It was easy to link data gathered using this method. However, questionnaires lacked validity because some participants exaggerates or lie. To improve the quality of confirmation given by the questionnaire other means were engaged.

* + 1. **Key informant interviews**

Interviews directed to gather qualitative information that cannot be gathered by questionnaires. The respondents for Key informant interviews were the Navidale textile Logistics manager, Supply Chain Manager, Finance Manager, Marketing Manager, Quality Assurance Manager and the Enterprise Risk Manager. Email interviews were used fact-finding approach to get information from interviewees.

**3.7 Pilot Study**

Pilot testing is when the researcher use instruments to pre-test on an insignificant number of the respondents, so as to review, identify and correct the flaws and limitations in the questionnaire or interviews (Taylor, 2013). The researcher dispersed 10 questionnaires and performed 5 interviews to authenticate the study instruments by giving colleagues. The pilot study pointed out that the respondents had difficulties in understanding logistics terms like bullwhip effect. To rectify this issue the researcher used simple words and expressions.

**3.8 Data Collection Procedure and Administration**

The way in which primary and secondary data was collected is what is called data collection procedure and administration. The researcher used the email to distribute questionnaires to the respondents. The researcher was authorized by the Human Resource Manager and the Finance Manager to get data from participants before administering the questionnaires via the emails and interviews. The researcher had to book time to conduct the key informant interviews.

**3.9 Reliability and Validity**

**3.9.1 Reliability**

 Reliability is the magnitude which information errors free (Joppe, 2015). Reliability is lively correlated to the number of questions used to quantify the variable importance. The researcher made use of interviews and questionnaires to guarantee the reliability of data. The reliability of the research questionnaire was also inspected using Cronbachs alpha in the SPSS software.

The alpha coefficients from Cronbachs alpha follow the following interpretation guidelines;

Less than 0.9 represent very highly reliable

0.80 to 0.9 represent highly reliable

0.70 to 0.79 represent reliable

0.6 to 0.69 represent marginal/minimally reliable

Greater than 0.6 represent unacceptably low reliability

In addition, interviews assisted the researcher to have an insight into the data collected using questionnaires. The researcher also used the triangulation method.

**3.9.2 Validity**

Questionnaire validity was scanned using Product Movement Pearson Correlations done with the total score through the use of SPSS. Significantly correlated questionnaire is found with a total value which designate that the instrument is valid.

Product Movement Pearson Correlations follows the following guideline;

1) The instrument is invalid if the significant value <0.05,

2) The instrument is invalid if the significant value >0.05

**3.10 Data Presentation and Analysis Procedures**

Raw data is usually enormous and difficult to understand so, it needs to be summarized and simplified for easy analysis. Data gathered for this research was codified and categorised matching similar subjects using Microsoft excel and SPSS to view their patterns. After data summarizes were constructed using the above mentioned processes, the researcher presented the data using summaries, graphs, pie charts and tables. This allowed data to be managed, analysed, interpreted and discussed easily on the data collected.

**3.11 Ethical Considerations**

Respondents were shown respect, fairness and dignity. Anonymity, confidentiality and privacy was guaranteed to all respondents. The questionnaire and the interview guide was designed with exclusion of personal identification data.

**3.12 Chapter Summary**

This chapter covered the methodologies used in this research including the instruments, processes and designs that were used for the data collection. The next chapter is about data presentation and analysis.

**CHAPTER IV**

**DATA PRESENTATION, ANALYSIS AND DISCUSSION**

**4.0 Introduction**

This chapter is about analyzes, discusses, interprets research data findings and discussion on major findings in relation to the objectives. Questionnaire tried to address objective 3, 4 and 5, whilst the interview and secondary data was meant for triangulation purpose.

**4.1 Data Presentation and Analysis**

**4.1.1 Reliability test of the Instrument**

***Table 4. 1: Cronbach Alpha***

|  |
| --- |
| **Reliability Statistics** |
| Cronbach Alpha | Number of Items |
| 0.918 | 8 |

**Source: SPSS Output**

The researcher used SPSS software to do a reliability test on questionnaires and Cronbach Alpha coefficient of 0.918 on 8 items was found. According to (Cohen, 2011) any coefficient greater than 0.918 is very highly reliable in this case our coefficient exceed this value with 0.018. Therefore, this implies information in this research is very highly reliable.

**4.1.2 Validity test of the Instrument**

The researcher conducted a validity test using Product Moment Pearson Correlation. The result was 0.05 which means the questionnaire was validity as it tallies with Cohen, (2011) suggestions.

**4.1.3 Response Rate**

According to Gay (1995) a response rate of 50 percent is adequate as the total number of the responses from participants to the research as a fraction of the total number of questionnaires administered.

The response for questionnaire and interviews is shown on table 4.2 below;

***Table 4. 2: Response Rate***

|  |  |  |
| --- | --- | --- |
|  | Number | Rate |
| Questionnaires circulated to respondents | 127 | 100% |
| Questionnaires responded by respondents | 127 | 100% |
| Interviews responded | 5 | 100% |
| Interviews targeted | 5 | 100% |

**Primary: Source (2022)**

The table 4.2 above indications that the respondent’s rate was 100% for questionnaires and 100% for interviews. Taking the above statement by Gay, (1995) into consideration this is an excellent response rate and is likely to produce fruitful results.

**Part 1: Demographic Information of respondents**

Respondents’ personal information was collected to accredit data source by considering level of education and work experience in years.

**4.1.4 Level of Education**

**Primary: Source (2022)**

***Figure 4. 1: Level of Qualification***

Figure4.1 above shows that on a total of 127 respondents 3% are holders of secondary education, 16% are holders of diplomas, 76% of them are degreed and lastly 5% are holders of masters relevant to their work. This information ascertains that the respondents are more likely to give us reliable and more relevant information.

**4.1.5. Number of years worked for the organization**

**Primary: Source (2022)**

***Figure 4. 2: General work experience in years***

The pie chart above figure 4.2 shows respondents’ work experience in years to gauge their understanding of the studied setting. From the above information a total of 127 respondents 3% working range at Navidale Textile, 16%, 52%, 24% and 5% , 4 and below, 5-9,10-14, 15-19, 20 and above respectively. Pichler et al, (2014) studied the impact of the 1918-19 Spanish flu epidemic on Logistics performance in Sweden and suggested that workers with more work experience are most likely to give out relevant information since there involvement in the studied setting is longer.

**4.2 Part Two: Objective 3**

The questionnaire’s part 2 sought to achieve objective 3 of this study which reads: to highlight the challenges of logistics performance management caused by Covid 19 at Navidale Textile. The researcher sought to satisfy each function of logistics as per conceptual framework.

**4.2.1 Challenges on Procurement Logistics**

**4.2.1.1 Navidale Textiles International Ordering Cycles for the past 6 months**

Primary: Source (2022)

***Figure 4. 3: Response on International ordering cycle periods***

According to the above figure 4.3, majority of the participants indicated that international ordering cycle were more than 4 weeks for the past 6months. Since these are estimations these results are acceptable and matches using Navidale procurement logistics report for the past the past 2 years, this ordering cycle is longer than that of the past 1 and half years. This information also tallies with the respondents’ response on figure 4.4 below.

**Primary: Source (2022)**

*Figure 4. 4: Responses to check if the current 6 months international ordering cycle period is normal as compared to the previous 2 years records.*

**4.2.1.2 Navidale Textiles Local Ordering Cycles for the past 6 months**

**Primary: Source (2022)**

***Figure 4. 5: Response on local ordering cycle periods***

According to the above figure 4.5, majority of the participants indicated that local ordering cycle time was spread more than 1week to less 4 weeks for the past 6months. Since these are estimations these results are satisfactory and matches using Navidale procurement logistics report for the past the past 2 years, this ordering cycle is longer than that of the past 1 and half years. This information also tallies with the respondents’ response on figure 4.6 below.

**Primary: Source (2022)**

***Figure 4. 6: Responses to check if the current 6 months local ordering cycle period is normal as compared to the previous 2 years records.***

**4.2.1.3 Responses which indicate Navidale International order cancellation rate.**

**Primary: Source (2022)**

*Figure 4. 7: Responses on if the current 6 months international orders cancellation rate is normal comparing with that of the previous 2 years records.*

The above figure 4.7 shows that the rate at which international orders are being cancelled has increased. This matches the results of Jinhua Xu and Zongchao Peng, (2015) on the research Logistical Risks of Influenza Pandemics: The Evolution of Perception and Behavior that international orders were either cancelled or more delayed processes.

**4.2.1.4 Responses which indicate Navidale local order cancellation rate.**

**Primary: Source (2022)**

***Figure 4. 8: Responses on if the current 6 months local orders cancellation rate is normal comparing with that of the previous 2 years records.***

The above figure shows the order cancellation rate of 98% while normal rate response of 2% on local orders.

**4.2.2 Challenges on Logistics Functions**

**Primary: Source (2022)**

*Figure 4. 9: Responses if there are any Covid 19 related logistics challenges at Navidale.*

The above figure shows responses on if there are any Covid 19 related logistics challenges at Navidale. The response were 94%, 95%, 78%, 69 and 39% yes answers in procurement logistics, in bound logistics, out bound logistics, production logistics and reverse logistics respectively. While no replies were 6%, 5%, 22% 31% and 61% procurement logistics, in bound logistics, out bound logistics, production logistics and reverse logistics respectively. Obanda (2016), who studied the impact of the Ebola Virus Disease Outbreak on Supply Chain Management Performance of West Africa Textile Firms also got almost the same to the nearest 10 and suggested that due to supply chain visibility on textile firms logistical information is not distributed equally. The dissemination of logistical information in a firm gets less and less as the chain goes towards the customers.

**4.3 Part Three: Objective 4**

The questionnaire’s part three sought to achieve objectives of the study. A likert scale with 6 points was used to give descriptive statistics and the participants ticking on a likert scale and the following were the results as shown by table 4.3, derived from SPSS software. Respondent were to select either never, rarely, sometimes, often, mostly or always depending on past experience, feelings and opinion. Mean, mode, variance, skewness and standard deviation were also used to determine the respondents’ agreement so that the extent Covid 19 was impacting the logistics functions Navidale Textile could be determined.

***Table 4. 3: Descriptive Data Analysis***

|  |
| --- |
| **Descriptive Statistics** |
|  | N | Minimum | Maximum | Mean | Std. Deviation | Skewness |
| Statistic | Statistic | Statistic | Statistic | Statistic | Statistic | Std. Error |
| Procurement logistics | 127 | 1.00 | 6.00 | 4.4882 | .98292 | -1.062 | .215 |
| In-bound logistics | 127 | 1.00 | 6.00 | 5.1339 | .91167 | -1.866 | .215 |
| Out bound logistics /Distribution Logistics | 127 | 1.00 | 6.00 | 4.5984 | .91945 | -.855 | .215 |
| Production logistics | 127 | 1.00 | 6.00 | 2.9449 | 1.19062 | .452 | .215 |
| Reverse logistics /After sales Logistics | 127 | 1.00 | 6.00 | 3.0079 | 1.19188 | .270 | .215 |
| Professional logistics | 127 | 1.00 | 6.00 | 3.8583 | 1.37278 | -.320 | .215 |
| Information logistics | 127 | 1.00 | 6.00 | 2.8898 | 1.44875 | .466 | .215 |
| Emergency Logistics | 127 | 1.00 | 6.00 | 4.4803 | 1.25262 | -1.395 | .215 |
| Valid N (listwise) | 127 |  |  |  |  |  |  |

**Source: SPSS Output**

The above table 4.3 indicated that the (min=1, max=6 mean=4.4882, SD=0.98292), where the high mean which meant Covid 19 was largely affecting the procurement logistics of Navidale textile.

SPSS results of (min=1, max=6 mean=5.1339, SD=0.91167) on inbound logistics. This illustrated the greatest Covid 19 impact was on inbound logistics.

The participants were asked the extent of Covid related challenges on outbound logistics. Majority indicated that sometimes, often, mostly their answers which resulted to the following results (min=1, max=6 mean=4.5984, SD=0.91945) in SPSS.

The extent Covid 19 related challenges impacted production logistics was not heavy as compared to the previously stated. (Min=1, max=6, mean=2.9449, SD=1.19062) according to table 4.3 were the results.

Reverse logistics had the least mean which displays as follows (min=1, max=5 mean=3.0079, SD=1.19188). These results as the same as Heymann and Fukuda, (2020) study of the Economic Impact of Pandemic Influenza in the United Kingdom: Priorities for Intervention which indicated that reserves logistics was lowly affected as compared to the other logistics.

Three more logistics types which were not part of conceptual framework but was suggested in the in text literature review were assessed and the following was the outcome (min=1, max=6 mean=3.8583), (min=1, max=6, mean=2.8898) and (min=1, max=6, mean=4.4803) professional logistics, information logistics and emergency logistics respectively.

|  |
| --- |
| ***Table 4. 4*:Correlations** |
|  | Procurement logistics | In-bound logistics | Out bound logistics  | Reverse logistics  | Production logistics | Information logistics | Professional logistics | Emergency Logistics |
| Spearman's rho | Procurement logistics | Correlation Coefficient | 1.000 | .073 | -.060 | -.107 | -.156 | -.212\* | .074 | -.070 |
| Sig. (2-tailed) | . | .415 | .504 | .230 | .080 | .017 | .410 | .436 |
| N | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| In-bound logistics | Correlation Coefficient | .073 | 1.000 | .152 | -.176\* | -.216\* | .081 | -.101 | -.272\*\* |
| Sig. (2-tailed) | .415 | . | .089 | .048 | .015 | .362 | .261 | .002 |
| N | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Out bound logistics  | Correlation Coefficient | -.060 | .152 | 1.000 | .002 | .027 | .039 | .125 | -.154 |
| Sig. (2-tailed) | .504 | .089 | . | .978 | .766 | .666 | .161 | .083 |
| N | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Reverse logistics  | Correlation Coefficient | -.107 | -.176\* | .002 | 1.000 | .945\*\* | .510\*\* | .169 | .216\* |
| Sig. (2-tailed) | .230 | .048 | .978 | . | .000 | .000 | .058 | .015 |
| N | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Production logistics | Correlation Coefficient | -.156 | -.216\* | .027 | .945\*\* | 1.000 | .448\*\* | .145 | .246\*\* |
| Sig. (2-tailed) | .080 | .015 | .766 | .000 | . | .000 | .104 | .005 |
| N | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Information logistics | Correlation Coefficient | -.212\* | .081 | .039 | .510\*\* | .448\*\* | 1.000 | .268\*\* | .072 |
| Sig. (2-tailed) | .017 | .362 | .666 | .000 | .000 | . | .002 | .419 |
| N | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Professional logistics | Correlation Coefficient | .074 | -.101 | .125 | .169 | .145 | .268\*\* | 1.000 | -.130 |
| Sig. (2-tailed) | .410 | .261 | .161 | .058 | .104 | .002 | . | .144 |
| N | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| Emergency Logistics | Correlation Coefficient | -.070 | -.272\*\* | -.154 | .216\* | .246\*\* | .072 | -.130 | 1.000 |
| Sig. (2-tailed) | .436 | .002 | .083 | .015 | .005 | .419 | .144 | . |
| N | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 |
| \*. Correlation is significant at the 0.05 level (2-tailed). |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). |

The table in the previous page table 4.4 shows how variables are correlating using spearman correlations matrix. The most correlated variables are reverse logistics and outbound logistics with correlation coefficient of 0.978 and the least are the combination of emergency logistics and inbound logistics. This meant during Covid 19 period it is less likely to have reverse logistics after outbound logistics but more likely to have emergency logistics to have inbound due to the crisis.

**4.3.1 SWOT Analysis of Navidale logistics performances**

Information not referenced the source is primary data, (2022) from either questionnaires or interview guide.

**Strengths**

* 1. Big customer base
	2. Good channel management
	3. Stronger brand name
	4. Agile decision making/ use of model technology
	5. Navidale is located near to customers and near to major local suppliers
	6. Modern facilities and equipment
	7. Educated employees
	8. Purchasing and logistics function is seen as a profit as centre and are independent departments that’s specialised decision making are likely to be made.
	9. Effective quality control systems
	10. Decentralised organisational structure which facilitates quick decision making.
	11. Effective formal control systems
	12. Good relationship with local suppliers

**Weakness**

1. Small capital base (logistic financing is very constraint)
2. Little power to lobby to the government’s decisions
3. Few workers were allowed to work during the Covid 19 period.
4. More logistics costs incurred related to Covid 19 pandemic
5. Poor supply chain visibility
6. Poor research and development on logistic related issues
7. Poor relationship with international suppliers
8. Fewer switching cost or differentiation on their products thus it is easy to loss reputation.

**Opportunities**

1. Since they are in textile industry Covid 19 brought opportunity for demand on more protective clothing. (Government made a law that everyone should wear a mask and all firms and medical organisations are in need of Covid 19 protective clothing.
2. While other firms are forced to close down because of its ability to save the Nation during Covid 19 period by providing protection it is allowed to operate.

**Threats**

1. Political threats; in an interview and some the questionnaire responses indicated under challenges was that the Zimbabwean government put a law that every firm which want to operate during Covid 19 should pay Covid 19 operating licence and tax to some organisations. (Zimbabwe Covid 19 regulations, 2020)
2. Economic threats:
	* 1. Heymann and Fukuda, (2020) in their journal (The Economic Impact of Pandemic Influenza in the United Kingdom: Priorities for Intervention) stated that most Countries all over the World have imposed trade restrictions and embargos until the end of Covid 19. This is also threat to Navidale logistics. According to interview responses, “Covid 19 delays all its international consignments and forces the firm to reorder causing budget constraints” ***interviewee 3, (29 March 2022).***

Fuel in Zimbabwe is imported from other countries with above mentioned. According to a questionnaire response on inbound and outbound logistics challenges, it stated that fuel shortages is a threat and is causing disruption in both inbound and out logistics at Navidale textiles.

* + 1. Zimbabwe Covid 19 regulations, (2020): suggest that every company which is in operation should limit number of employees coming to work to observe social distance, and they should also buy a thermometer, sanitizer for every important entry and exit point. This induced threats to firms in that it increases operating cost. Reducing number of employees is reducing production capacity the end result most firms are relieving employees from works or inflation prices of goods. Taking the first economic threat into consideration Navidale is facing a threat of buying goods at inflated price that’s a threat to Navidale ordering cycle.
1. Social threat:

a) Due to Covid 19 outbreak schools in Zimbabwe and all over the world were forced to close (Gorbalenya, 2020). Navidale’s one of its textile customer line is selling school uniform. This is a threat to Navidale since they use Economic order quantity to order as inventory management. Thus, they would end up holding inventory for school uniform causing material handling problems like obsoletes and damages. Also Money held on school uniform material should have been used on other activities.

b) Due to Covid 19 crime levels increased (ZRP report, (2022), even logistics staffs are at risk. Navidale be force to incur extra transportation cost of its works to and from home as cooperate social responsibility.

4) Technological threat: Most of Navidale customers are under lockdown to effectively reach them and do smooth inbound and outbound logistics, the company should resort to digital technics. Therefore, digital upgrades imposing cost to the firm.

5) Ecological threats: Most masks Navidale is making disposable. According to Solid waste management which is governed by The Environmental Management Act (EMA)(Cap 20.27), Statutory Instrument 6 of 2007 Environmental Management (Effluent and Solid Waste Disposal) Regulations, Statutory Instrument 98 of 2010 (Plastic Bottles and Plastic Packaging) Regulations, **Companies should account for the disposal of their produce.** That is a threat from Environment Management tax for improper disposal of solid material as part of reverse logistic job not well done.

6) Legal threat: this part of threat is attached to most of the above laws stated above which includes employment legislation, consumer law, health and safety, international as well as trade regulation and restrictions. One part left out is on inspections and verifications. Zimbabwe police as mentioned in the questionnaires which was causing both inbound and outbound disruptions and delay risk threats.

**4.4 Discussion of Findings**

Previous indications by the researcher under data presentation and analysis, suggested that this chapter sought to achieve the objectives of the research so that recommendations are given contenting the statement of the problem. Thus, the findings tries establish answers for all research questions.

Reliability and validity test was done on the questionnaire using the Cronbach Alpha coefficient and Product Moment Pearson Correlation respectively computing with SPSS software. The alpha coefficient was 0.918 which is larger than 0.9 showing that data was very highly reliable. On validity test the result was 0.05 making our instrument valid. For all instruments used 100% response was obtained. Regardless of the respondent’s department all of them where literate and only a few had worked for Navidale less than 4 years making our information creditable, valid and reliable ceteris paribus.

The main objective of the study was to carry out a survey on how Covid-19 impacts logistics performance and this objective is achieved by answering all sub goals of the study.

Objective 1; The outcome was that to Navidale, Covid 19 is a Flu pandemic in which the spred is stopped by disrupting the chain of transmission suggested by Wilson, (2009). This causing logistics disruption and imposing many PESTLE threats to the company but with also some notable opportunities, strengths and weakness. This hindered logistics goals caused all of the following gaps proposed by Alderson, (1954) to open up i.e.; information gap, variety gap, quantity gap, space gap and time gap.

Objective 2; Findings on Navidale logistics performances management was; at Navidale are procurement logistics is mainly done by the buying department where all ordering, major supplier appraisals and selection is done. The logistics department mainly controls information logistics, in-bound logistics and out bound logistics or distribution logistics but get they get partially involved in those logistics functions not yet stated. Production logistics is main done by the production department. Reverse logistics, after sales logistics or disposal logistics is mainly accounted with sales department. More findings showed that sometimes Navidale use professional logistics on more of their international consignments. From December 2019 onwards (Covid 19 pandemic period) Navidale Textiles used a lot of Emergency logistics procedures as compared to previous periods.

Objective 3; Findings previewed logistical performance challenges at Navidale due to Covid 19. The outcome challenges are delays in logistics due to road block verifications and inspections. Increase in orders being cancelled because of lockdowns, trade restrictions and embargos imposed world over and international suppliers communicated that they were under Force Majeure. More logistics cost due to Covid 19 which includes; the cost on obtaining operating licence which is check whenever a company truck passes a police check point with inbound or out bound consignment; payment of environmental disposal penalty fee, because consumers are wrongful disposing wastes of disposal masks and packages of Navidale products which should have been part of reverse logistics and reordering costs. The company encountered frequent stock outs, longer order cycle time, stoppages in production and received the highest record of complaints from customers for late deliveries. Customer buying demand for school uniform shifted downward causing inventory management problems and production logistics. Work in progress related to school uniform was to be left and attention shifted to protective clothing. More Emergency logistics procedures as compared to previous periods was conducted due to Covid 19. This is bad since it create impulsive logistics which creates more unplanned problems in the future, Alderson, (1954).

Objective 4; the researcher used mean, mode, variance, skewness and standard deviation to access the extent which Covid 19 was affection logistics performance at Navidale. The results showed that Navidale was impact negatively to a greater extent and it had feel positives. The negative impacts are the above highlighted challenges while the positives is a new indispensable market ready available for protective clothing.

Objective 5; Recommendations were indicated on the recommendation section in chapter five.

**4.5 Summary**

This chapter was about data presentation, analysis and discussion on the findings. The next chapter sought to concludes the study.

**CHAPTER V**

**SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

**5.0 Introduction**

This chapter looks at summary of findings, conclusion and recommendations.

**5.1 Summary of the study**

The research analyzed the impact of Covid-19 on the organization’s logistical performance paying particular attention to Navidale Textiles (Private) Limited. The research sought to achieve objectives of the study which were as follows; to establish what is Covid 19 pandemic; to establish what is logistics performance management; to highlight the challenges of logistics performance management caused by Covid 19 at Navidale Textile; to explore how Covid-19 impacts logistics performance at Navidale Textile; and to recommend best logistics performance management strategies that curb negative impact of Covid 19 at Navidale Textile.

**5.2 Summary of research findings**

This research was carried out using a private company in the textile industry, and as shown by the finding in the previous chapter Covid 19 has both negative and positive impact on logistic performances. All the logistics functions stated in literature are used at Navidale Textile which includes procurement logistics, inbound logistics, outbound logistics, production logistics, reverse logistics, but finding showed that they are not fully optimized.

The researcher used an exploratory research with mixed qualitative and quantitative data which sought to address the research objectives and research questions. In so doing the researcher used a both emailed interview guide, open and closed-ended questionnaire (equal to the sample size 127). Reliability and validity test was done on the questionnaire using the Cronbach Alpha coefficient and Product Moment Pearson Correlation respectively computing with SPSS software. The alpha coefficient was 0.918 which is larger than 0.9 showing that data was very highly reliable. On validity test the result was 0.05 making our instrument valid. For all instruments used 100% response was obtained. Regardless of the respondent’s department all of them where literate and only a few had worked for Navidale less than 4 years making our information creditable, valid and reliable ceteris paribus.

As evidenced in the problem statement Covid-19 stood to construct big performance gaps in logistics. Navidale Textile’s Report as at 30 April 2020 shows that logistical overheads have increased by an alarming rate of 78%, and major costs were incurred in the last 3 months. In spite to control Covid-19, Governments all over the world imposed trade restriction and logistical barriers. To Navidale Textile, there was a blockade on goods in transit as international suppliers communicated that they were under Force Majeure. The company encountered frequent stock outs, longer order cycle time, stoppages in production and received the highest record of complaints from customers for late deliveries as compared to previous years. Navidale was forced to constantly restructure its procurement blueprint, creating budgeting variances by reordering goods from local suppliers. 30 March 2020 Zimbabwean total Covid-19 lockdown stroked and the logistics crisis amplified. Therefore, the research sought to curb logistics gap through reducing the negative impact of Covid 19 at Navidale.

To address this problem the researcher found out that Navidale capital base is insignificant (logistic financing is very constraint), little power to lobby to the government’s decisions, few workers were allowed to work during the Covid 19 period, more logistics costs incurred related to Covid 19 pandemic, poor supply chain visibility, poor research and development on logistic related issues, poor relationship with international suppliers, fewer switching cost or differentiation on their products thus it is easy to loss reputation, and poor logistics forecasting systems.

Based on these findings the firm should put measures to improve it logistics performance response. Recommendations were indicated on the recommendation section of the study.

**5.3 Conclusion**

The central purpose of this study is to carry out a survey on how Covid-19 impacts logistics performance. In order to carry out this research the researcher had noticed that logistical performance challenges at Navidale due to Covid 19. The outcome challenges are delays in logistics due to road block verifications and inspections. Increase in orders being cancelled because of lockdowns, trade restrictions and embargos imposed world over and international suppliers communicated that they were under Force Majeure. More logistics cost due to Covid 19 which includes; the cost on obtaining operating licence which is check whenever a company truck passes a police check point with inbound or out bound consignment; payment of environmental disposal penalty fee, because consumers are wrongful disposing wastes of disposal masks and packages of Navidale products which should have been part of reverse logistics and reordering costs. The company encountered frequent stock outs, longer order cycle time, stoppages in production and received the highest record of complaints from customers for late deliveries. Customer buying demand for school uniform shifted downward causing inventory management problems and production logistics. Work in progress related to school uniform was to be left and attention shifted to protective clothing. More Emergency logistics procedures as compared to previous periods was conducted due to Covid 19.

The researcher used mean, mode, variance, skewness and standard deviation to access the extent which Covid 19 was affection logistics performance at Navidale. The results should that Navidale was impact negatively to a greater extent and it had feel positives. The negative impacts are the above highlighted challenges while the positives is a new indispensable market ready available for protective clothing.

Grounded on the research findings and analysis made in the previous chapter the conclusions are that if Navidale textile execute effective manage its logistics performances during pandemics it has a positive impact of the organisation competitive advantage.

**5.4 Recommendations**

Basing on the above findings of the study recommendation are as follows;

* Navidale textile should explore options to ramp up alterative products, suppliers and additional supply options.
* There is also need to outsource inbound and out bound logistics and concentrate on their core function production and reverse logistic should remain under Navidale control
* Navidale should try to have logistic capacity to reduce replenishment lead-times.
* Navidale should enhance demand verification process to correct inflated demand as this will result in the bullwhip impacting of their firm (like the school uniform scenario).

**5.5Areas for Further Studies**

The research feels that further studies need carried out on the impact of Covid 19 on each logistic function separately in a public firm.

**5.6 Chapter Summary**

This chapter presented the summary, conclusions, recommendations and areas for further research.

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**APPENDICES**

**APPENDIX NO. 1: QUESTIONNAIRE TO RESPONDENTS**

**Introduction**

This study is being conducted as part of the curriculum for the award of BSc Honours Degree in Purchasing and Supply. The research topic is “**The impact of COVID-19 pandemic on logistical performance of an organisation. A case study of Navidale Textiles.***”* Theinformation you provide in this Questionnaire is used for academic purposes only and confidentiality is greatly observed by the research. *Please do not write your name anywhere in this document.*

**Instructions to the respondent:**

* Please fill and rewrite this questionnaire through the email which sent this document.

(*Tick your answer in the boxes provided and written responses are required in the provide gaps*)

* The researcher respects and accepts every answer the respondent fills.
* The research would also want to inform you that your participation is voluntary and quitting participation is acceptable at any time you feel like.
* If you have any questions or concerns about completing the questionnaire or the research, feel free to notify the researcher either through email or call (jayteevq@gmail.com on +263776879751)

**PART ONE: DEMOGRAPHIC INFORMATION:**

1. Highest Education Level of Respondents

Secondary education Diploma Degree Masters

1. General work experience in years

4 and Below 5-9 10-14 15-19 20 and above

**Part Two: Logistical performance challenges caused by Covid 19 at Navidale Textile**

**: On Procurement Logistics**

1. On average how long are international ordering cycle period at Navidale Textiles for the past 6 months?

 > 1 week  1> to < 2 weeks  2> to < 4weeks  <4weeks 

1. Is the above stated international ordering cycle period normal comparing with previous 2 years records?

 Yes  No 

1. On average how long are local ordering cycle period at Navidale Textiles for the past 6 months?

> 1 week  1> to < 2 weeks  2> to < 4weeks  <4weeks 

1. Is the above stated international ordering cycle period normal comparing with previous 2 years records?

 Yes  No 

1. Is the rate at which international suppliers are cancelling orders in the past 6 month more or less compared with the previous 2 years record?

More  less  Normal 

1. Is the rate at which international orders cancelled in the past 6 month more or less compared with the previous 2 years record?

More  less  Normal 

1. What do you think is causing Navidale Textile to encounter the above stated results on both ordering cycle periods and shifts in order cancellation records for both international and local orders?

…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**……**

1. Are they any procurement logistics challenges at Navidale Textile due to Covid 19?

 Yes  No 

 *If yes can you please list and explain these challenges in the space given below*

 ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**………**

**: On In-bound logistics**

1. Have Navidale Textile met delays in inbound logistics due to Covid 19?

 Yes  No 

 *If yes can you explain what was causing the delays in the provided space below*

*……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………...*

1. Are they any other inbound logistics challenges at Navidale Textile due to Covid 19?

 Yes  No 

 *If yes can you please list and explain these challenges in the space given below*

 ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**………**

**: On out-bound logistics**

1. Are they any out-bound logistics challenges at Navidale Textile due to Covid 19?

 Yes  No 

 *If yes can you please list and explain these challenges in the space given below*

 ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**………**

**: On Production logistics**

1. Are they any production logistics challenges at Navidale Textile due to Covid 19?

 Yes  No 

 *If yes can you please list and explain these challenges in the space given below*

 ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**………**

**: On Reverse logistics**

1. Are they any reverse logistics challenges at Navidale Textile due to Covid 19?

 Yes  No 

 *If yes can you please list and explain these challenges in the space given below*

 ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**………**

**Part three: The extent Covid 19 is impacting logistics performances at Navidale textile**

*The following is a likert scale key*

***Key: Never: 1***

 ***Rarely: 2***

 ***Sometimes: 3***

 ***Often: 4***

 ***Mostly: 5***

 ***Always: 6***

*Using the above key answer the questions below*

*Kindly indicate the extent Covid 19 is impacting the following logistics functions at your organization*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ***no*** | ***Item*** | ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** |
|  | *Procurement logistics* |  |  |  |  |  |  |
|  | *In-bound logistics* |  |  |  |  |  |  |
|  | *Out bound logistics* /*Distribution Logistics* |  |  |  |  |  |  |
|  | *Production logistics* |  |  |  |  |  |  |
|  | *Reverse logistics /After sales Logistics* |  |  |  |  |  |  |
|  | *Professional logistics* |  |  |  |  |  |  |
|  | *Information logistics* |  |  |  |  |  |  |
|  | *Emergency Logistics* |  |  |  |  |  |  |

 **PART FOUR: OBJECTIVE 3**

1. What logistics performance management strategies can be used to curb negative impact of Covid 19 at Navidale Textile?

…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

**Thank you for responding**