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DEPARTMENT OF ECONOMICS



THE EFFECT OF SUPPLY MARKET INTELLIGENCE ON THE SUPPLY CHAIN
PERFORMANCE OF ZIMBABWE'S DAIRY SECTOR.

BY

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DEDICATION

It is dedicated to the Lord Almighty God for seeing me through my years at the University. I also dedicate to my parents and my brothers for their love and encouragement.

ABSTRACT

This study was conducted to evaluate the impact of supply market intelligence on the performance of Zimbabwe's dairy industry's supply chain. The study's goals were to evaluate the impact of supply market intelligence on supply chain flexibility, to assess the role of supply market intelligence in achieving an efficient supply chain in the dairy industry, and to ascertain how effectively the supply chain in that industry is utilizing resources. The fundamental issue is the dairy industry's poor performance, which is demonstrated by a drop in milk production. The researcher had the expertise necessary to comprehend the issue and make recommendations after reviewing a theoretical framework and actual data. From a population of 50 individuals working in the dairy industry's supply chain, a sample of 40 were chosen. To create a sample that would accurately represent the workforce, department heads, and managers, convenience and justifiable sampling were utilized. Tables and bar charts were used to present and interpret the data acquired, while questionnaires and interviews were utilized to collect the data. The study came to the conclusion that the dairy supply chain is more effective, efficient, and flexible as a result of customer intelligence, product intelligence, market intelligence, and competition intelligence.

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ACRYNOMS

- ABC - Activity Based Costing
- DBMS - Dimension Based Measurement System
- EBMS - Efficiency Based Measurement system
- EU - European Union
- GDP - Gross Domestic Product
- SCOR - Supply Chain Operations Reference Model
- SKUs - Stock Keeping Units

CHAPTER I

INTRODUCTION OF THE STUDY

1.1 Introduction

The impact of supply market intelligence on the performance of Zimbabwe's dairy supply chain is examined in this study. The background of the study, problem statement, purpose of the study, research objectives based on supply chain performance metrics, research questions, assumptions of the study, significance of the study, limitations and delimitations of the study, definition of terms, and study organisation will all be covered in this chapter.

1.2 Background of the study

The supply chain is an important component of many sectors, as it contributes to the expansion of enterprises. According to (Statista, 2021), the supply chain is changing as a result of new management development and rising customer demand. Firms should be very active in meeting industry expectations. The COVID-19 pandemic disrupted supply chain operations worldwide; 32 percent of global retailers experienced little disruption, 12 percent experienced severe disruption, 64 percent were challenged to adapt their supply chain for e-commerce, 56 percent negotiated contracts, 28 percent looked for alternative sourcing options, and also 28 percent of global retailers experienced shortages and ran out of stock, (RetailNext, 2020). According to (Accenture, 2018), 70% of industry professionals believe that supply chain would be a primary driver of improved customer service. Cutting costs, supply chain management automation, market expansion, data and analytics, customer service, adding new talent, ecommerce, direct-to-consumer sales, and mobile enable consumers are some of the factors contributing to improved supply chain performance worldwide, (Reuters, 2018). According to (Forbes, 2018), transportation and logistics activities account for 12% of global Gross Domestic Product(GDP).

In the dairy industry, technological capabilities are becoming increasingly important, resulting in an increase in the complexity of the dairy supply chain. The cost of

numerous modern instruments accessible to dairy producers, according to the US Department of Agriculture, is contributing to the increase in typical farm sizes. Pre-production, fresh milk production, processing, and distribution of milk and milk products are all part of the dairy value chain. Global milk production has increased from 497 million metric tonnes in 2015 to 532 million metric tonnes in 2020, Statista.com. In 2020, the European Union (EU) produced over 157 million metric tonnes of cow milk, making it the world's largest milk producer. The global milk surplus caused by the Covid-19 outbreak and accompanying economic lockdown resulted in decreased milk prices and uncompetitive stock feed prices on the home market.

When compared to its regional equivalents, Zimbabwe's dairy sector has the highest raw milk cost; stock feed accounts for 87 percent of raw milk production costs, making milk production uncompetitive. Low milk yields per cow have resulted from uncompetitive stock feed prices, as producers compromise on feed formulations to stay afloat. The dairy industry's smooth and efficient operations are being hampered by the lack of crucial economic enablers such as water and power. Because milk is a perishable commodity that requires consistent refrigeration facilities, irregular electrical supply is also affecting dairy operations.

Supply market intelligence can help the dairy industry in enhancing its supply chain performance. Organizations must establish extensive market information to give insights into key market trends, commodity price, global capacity, and political and regulatory developments that may affect global sourcing. Economic changes that will effect an organization's supply chain must also be considered. Supply chain executives, according to (McKinsey, 2020), intend to increase the transportation and logistics resilience of their operations by using two different sources for raw materials, stocking up on more essential products, regionalizing their supply chains, reducing the number of SKUs in their product portfolios, near-shoring their own production, increasing the number of distribution centers.

1.3 Statement of the problem

According to (Chari, 2017), more international commerce leads to a longer and more complicated global supply chain, which leads to more supply chain disruptions. Many natural and man-made disasters have occurred in recent years, disrupting global supply networks, (Sodhi and Tang, 2012). (Phiri, 2014), points to a drop in milk output of 50 million litres compared to yearly demand of 120 million litres as proof of the dairy sector's poor performance. (Anseeuw et al, 2012), milk and dairy products are in short supply in Zimbabwe. Some milk processing companies, wholesalers, and retailers have closed as a result of supply chain network interruptions. Through food insecurity, it harmed the livelihoods of a huge number of households that rely on dairy products as a key component of their diet. Organisations implement supply market intelligence in order to improve their supply chain performance, through supply market intelligence organisations in the dairy sector can have knowledge of market trends, technological trends, changes in consumer preferences and competitor strategies.

1.4 Objectives of the study

The major goal of this research is to see how supply market intelligence affects the performance of Zimbabwe's dairy supply chain.

- To assess the role of supply market intelligence in achieving an effective supply chain in the dairy sector.
- To determine to what extent the dairy sector supply chain is utilizing resources efficiently.
- To evaluate the impact of supply market intelligence on Supply Chain Flexibility.

1.5 Research questions

This study aims to answer the following research questions:

- What is the role of supply market intelligence in achieving an effective supply chain in the dairy sector?
- What extent is the dairy sector supply chain utilizing resource efficiently?

- How does supply market intelligence impact supply chain flexibility in the dairy sector?

1.6 Significance of the study

The study will be most significant to the supply chain practitioners, to the academia and policy makers.

1.6.1 To the supply chain practitioner

This research is important for dairy supply chain stakeholders who want to improve their supply chain management practices and improve the dairy supply chain's performance. This research will also assist customers in gaining access to high-quality raw milk and milk products, hence improving nutrition and food security for Zimbabweans.

1.6.2 To the Academia

This study will serve as a guide for other students interested in conducting similar research in the future. The findings will be used as reference material in the university database. It is a chance to shift the focus of the courses from academic to practical.

1.6.3 To Policy makers

The findings of this study will aid government departments in developing public policies for the dairy industry's supply chain management and improvement.

1.7 Assumptions

The study was carried out under the following assumptions:

- Dairy producers, processors, and merchants will work together and deliver reliable data.
- This research would be useful to stakeholders, and they would use it to enhance supply chain performance.

- During the research, the dairy producers, processors, and merchants did not change their minds.

1.8 Delimitations

The research looked at the supply chain performance of all companies in the Zimbabwean dairy industry, as well as dairy farmers. The study was primarily concerned with determining the impact of supply market intelligence on supply chain performance.

1.9 Limitations

This research is confined to the dairy industry's supply networks. Data from diverse supply chains throughout the world may be used to do further study. Other problems that may obstruct the researcher's goal of fulfilling the research's objectives include time, financial restrictions, environmental constraints, and concerns related to the Covid-19 pandemic. The researcher will also gather data via social media platforms.

1.10 Definition of terms

Supply Chain- it refers to the life cycle activities that incorporate physical, information, financial, and knowledge exchanges in order to meet end-user requirements with products and services from numerous linked providers, (Ayers, 2001).

Supply Chain Performance- refers to the extended operations of the supply chain aimed to fulfill end-customer needs, such as product availability, on-time delivery, and all essential inventory and capacity in the supply chain, (Patel and Saad, 2006).

Supply market – (Lobermeyer and Kotzab, 2010) define a supply market as a collection of providers in a market that are fighting to serve to the same customer.

Supply market intelligence – (Hargraves, 2008) defines it as the active, dynamic, and continuous collection, recording, and analysis of market data in order to make appropriate sourcing decisions.

Customer service – It is the capacity to fulfill clients' requirements and desires. (Davies, 2014).

1.11 Organisation of the study

The introduction, background of the study, statement of the problem, purpose of the study, research objectives, research questions, assumptions, and significance of the study, delimitations and limitations of the study, definition of terms, and organisation of the study are all covered in chapter one. The literature review is covered in chapter two, research methodology is covered in chapter three, data presentation, analysis, and discussion is covered in chapter four, and the summary, conclusion, and recommendations are covered in chapter five.

1.12 Summary

This chapter explains why this research was conducted. It examined the introduction, the study's history, and the problem statement. The study's objectives were established in accordance with supply chain performance metrics in the dairy supply chain, and the study's research questions, which serve as guidelines for the study, are explained in this chapter. It offered the study's assumptions as well as the study's relevance and limits, which are those factors outside the researcher's control, as well as the study's definitional words. The next chapter will go over the literature on the subject at hand.

CHAPTER II

LITERATURE REVIEW

2.1 Introduction

This chapter examines a variety of previously utilized literature in relation to the topic at hand. The major goal is to collect data and conduct critical analysis to discover knowledge gaps and areas for development. The theoretical and empirical framework of supply chain performance and supply market intelligence are discussed in this chapter, followed by the impact of supply market intelligence on supply chain performance.

2.2 Supply Chain.

According to (Chen and Paulraj, 2004), a supply chain is a network of materials, information, and service processing relationships with supply, transformation, and demand characteristics. Dairy supply chain interactions comprise manufacturers, suppliers, transporters, warehouses, retailers, and customers, (Kemokai, 2012). Customer satisfaction is the main goal of the supply chain and businesses compete for customers of their products and services. Suppliers must be integrated into a company's strategy in order for it to be completely informed in the rising market. Implementing supply chain management lowers operational costs, improves product quality, and minimizes customer complaints.

2.3 Supply Chain Performance

Supply chains according to (Kopezak and Hau, 1994), act on three important dimensions: service, assets, and speed. The capacities to predict, capture, and satisfy consumer demand is referred to as service. Assets are anything with a monetary worth. Each of these three important aspects should have at least one performance

metric in every supply chain. Companies must identify their performance metrics and their relevance to established corporate objectives. According to (Hendricks and Singhal, 2003), Supply chain performance can be increased by good supply chain practices resulting in more effective, efficient and flexible supply chain.

2.4 Supply Chain Performance metrics

According to (Aramyan et al, 2006), the three primary areas of agri-food supply chain performance indicators are effectiveness, efficiency, and flexibility. Performance metrics have more specific indicators, and they constitute the foundation of a performance assessment system. These performance indicators can be utilized at both the organizational and supply chain levels.

2.4.1 Effectiveness

Customer satisfaction must be fulfilled for an organisation to have an effective supply chain. Customer pleasure is tied to an organization's performance, and price should be in accordance with product quality. Product characteristics, functionality, dependability, sales activity, and customer service are critical components of a supply chain's effectiveness, (Hague and Hague, 2016). Consumers that are happy come back for more, and they reach out to future customers. Employee happiness is equally crucial before reaching consumer pleasure, (Lovelock and Wright, 2007).

The Expectancy-Dis confirmation Paradigm (EDP) was introduced by (Oliver, 1977; 1980), and it asserts that consumers' have expectations on product performance. Product results are compared to expectations after they have consumed it. There is confirmation when outcomes meet expectations, but there is dis confirmation when they do not.

2.4.2 Efficiency

Technical efficiency and allocative efficiency are two components of an organization's efficiency, (Farell, 1957). The capacity of the decision-making unit to create the maximum output from the given inputs is referred to as technical efficiency.

Allocative efficiency refers to a decision-making unit's capacity to utilize inputs in the best possible proportions. It is necessary for organisations to keep minimum inventory because keeping minimum inventory entails asset commitment and inventory turnover. The goal is to lower inventory while maintaining customer satisfaction. Commodities handling and packaging are also vital in inventory control; proper packaging may make materials more efficient and effective.

2.4.3 Flexibility

Flexibility, according to (Winkler, 2008), helps organisations to cope with changes and risk in the business environment while also facilitating swift reactions. It is critical to increase supply chain flexibility in order to get high performance results. According to (Sanchez and Perez, 2005), flexibility has several forms and qualities, including sourcing, transshipment, machine, product, volume, labor, delivery, distribution, access, and mix flexibility. (Singh and Acharya, 2013) examined several conceptions and ideas of flexibility and concluded that every organisation systematically balances various types and levels of flexibility under varying situations. In order for dairy supply chains to continue to operate efficiently and effectively in the face of unpredictability, they must be flexible.

2.4.4 Supply chain performance models

Activity Based Costing (ABC)

(Kaplan and Bruns, 1987) established the ABC strategy with the goal of linking financial and operational success. Breaking down operations into discrete tasks or cost drivers is part of this strategy. Time and money are projected, and costs are apportioned depending on cost drivers. It enables for a more accurate assessment of a supply chain's genuine productivity and cost. This method allows companies to evaluate the costs of marketing a product and offering a service to a supplier.

Supply Chain operations Reference Model (SCOR)

In 1996, the first version was created. It's a model that looks at the supply chain by defining and classifying processes, assigning metrics to them, and comparing them to similar standards. A supply chain according to the SCOR model is made up of five key interconnected processes: plan, source, produce, deliver, and return. Most processes are evaluated from five points of view: dependability, responsiveness, flexibility, cost, and asset. The SCOR model considers the total supply chain's performance and presents a balanced approach by characterising supply chain performance in various aspects.

Dimension-based Measurement System (DBMS)

The DBMS idea is founded on the notion that every supply chain may be assessed on dimensions, (Ramaa et al, 2009). Resources, output, and flexibility are three types of measurements recognised by (Beamon, 1999) as necessary components in supply chain performance monitoring systems. Manufacturing costs, inventory costs, and return on investment are examples of resource performance measurements. Total sales, on-time deliveries, and fill rate are examples of output metrics. Volume changes and the launch of new products are examples of flexibility measures.

Efficiency-based measurement System (EBMS)

EBMS are efficiency-measurement systems for supply chains. (Wong and Wong, 2007) developed a Data Envelopment Analysis (DEA) model for internal supply chain performance efficiency and used it to a case study to give a framework for studying supply chain performance. DEA accounts for all inputs and outputs at the same time, gives precise information on efficient businesses within a sample and identifies which ones are relevant as benchmarks, and constructs the frontier without requiring parametric specification of a functional form.

2.5 Supply market intelligence

Supply intelligence, according to (Smith, 2011), is the act of obtaining information in the sphere of business that helps company managers to speed up the decision-making

process. Supply market intelligence, according to (Hugo, 2021), is the notion of obtaining and evaluating data to aid in the management of certain categories. Procurement has a higher chance of managing risk, negotiating, ensuring customer satisfaction, saving money, and gaining a competitive edge. It may also be described as external data that organisations can utilize to control the supply of products and services, such as market, customer, competitor, and supplier information. Suppliers, internal sources, desk research, and research services are all good sources of supply market intelligence.

2.5.1 Competitor intelligence

Competitor intelligence, according to (Wright et al, 2002), is the process through which a corporation determines and comprehends its industry, rivals, and their strengths and shortcomings. A full grasp of consumers and their behavior, according to (Kelly, 2006), is competition intelligence. According to (McGonagle and Vella, 2012), public sources are used to add information about rivals. Market share, recognizing a rival's purpose and propositions, reviewing current and prior competitor tactics, background, expertise of Management team, understanding exit barriers from competitors, and analyzing competitor strengths and weakness are the seven concerns highlighted by (Aaker, 1995).

2.5.2 Product Intelligence

A method of obtaining, analysing product specifications and performance is referred to as product intelligence, this information is used by product designers and managers in order to aid in their creation. Its goal is to boost innovation, which will make a competitive product. Product intelligence is most commonly associated with electrical items, but it is not confined to them (Wikipedia.com). Product information should be a differentiator, the digital shelf should be increased, identify rivals, price wisely, integrate Product Intelligence System-wide , (Parthasarathy, 2015).

2.5.3 Market Intelligence

Market intelligence, according to (McGonagle and Vella, 2012), is focused on the most recent activity in the marketplace. Market intelligence is data about a company's markets that is gathered and analysed with the goal of making accurate and confident decisions in areas like market opportunity, market penetration strategy, and market development, (Cornish, 1997). Marketers examine demographic, psychographic, and behavioural distinctions among customers to discover and profile diverse groups of purchasers who may prefer or require different product and service combinations. Following the identification of market groups, the marketer determines which provide the best prospects, or target markets, (Kotler and Keller, 2014).

2.5.4 Customer Intelligence

Customer intelligence, according to (Kotler and Keller, 2014), is described as new understandings about consumers and the marketing environment produced from obtained data serving as foundation of developing consumer value and connections. Customer Intelligence allows organizations to be well equipped with information about customers; it concentrates on critical and strategic planning. The understanding is modified by generating revised and new insights that enhance performance, decision making, planning and operations. Clear understanding of customers is also enhanced during the course of obtaining customer information.

2.6 Influence of Supply market intelligence on supply chain performance

Supply market intelligence elements (customer intelligence, market intelligence, competitor intelligence and product intelligence) affect an organisation's supply chain performance in different ways and they influence organisation's performance positively.

Effectiveness

A supply chain's effectiveness is improved through supply market intelligence. It allows for continual improvement and benchmarking against rivals, as well as assessing strengths and weaknesses, identifying opportunities for improvement, and making strategic decisions to improve performance and customer satisfaction. Market intelligence and customer intelligence allow businesses to create a more efficient supply chain by doing research and gathering data. Customers' requirements cannot be ignored by a company so as to develop a supply chain which is effective, (Tao, 2014). Supply market intelligence enables a company to identify consumers, those which are satisfied and dissatisfied. This makes it easier for a company to apply effective ideas to improve product quality and delivery processes, thereby improving supply chain performance.

Efficiency

Supply market knowledge has a favourable impact on a company's supply chain efficiency. Improved customer service, more sales, lower expenses, and better profitability are all benefits of good inventory management. Customer demands may be addressed when inventory choices are made by qualified staff using a realistic and logical prediction method. Supply market information assists businesses in conducting periodic reviews and modifications to their goods and markets. Supply market intelligence can help a company learn not only what it needs in the short term, but also what it needs several weeks ahead of time. This knowledge can lead to better management of delivery times, truckload quantities, and other variables, lowering costs and increasing customer awareness. Product intelligence helps organisations avoid having too many stock keeping units (SKUs) in too many locations. As a result of product intelligence, programmes like the ABC analysis, in which inventory is segregated by volume of sales, stocking policy based on velocity, tying stocking decisions to planning, and centralising C items in one distribution centre have been implemented. Supply market knowledge leads to constant improvement in the development of new and better inventory management solutions.

Flexibility

Supply market intelligence enables organizations to compete in continuously changing environments. It's crucial to keep track of, understand, and manage their flexibility. (Spring and Stevenson, 2007). If an organization's supply chain is flexible and has built-in flexibility capabilities, it will be able to overcome changes in the marketing environment. Supply market intelligence allows the management team to think about flexibility from the perspective of the ultimate customer. Is there a sufficient number of items accessible for purchase (volume flexibility) at the retailer? How long would the consumer have to wait if the product is not currently available (delivery flexibility)? What are the various items offered (mix flexibility)? Supply market knowledge allows a company to improve supply chain flexibility, labor agility, production equipment scheduling, and inventory management, (Graves and Jordan, 1995).

2.7 Conceptual framework

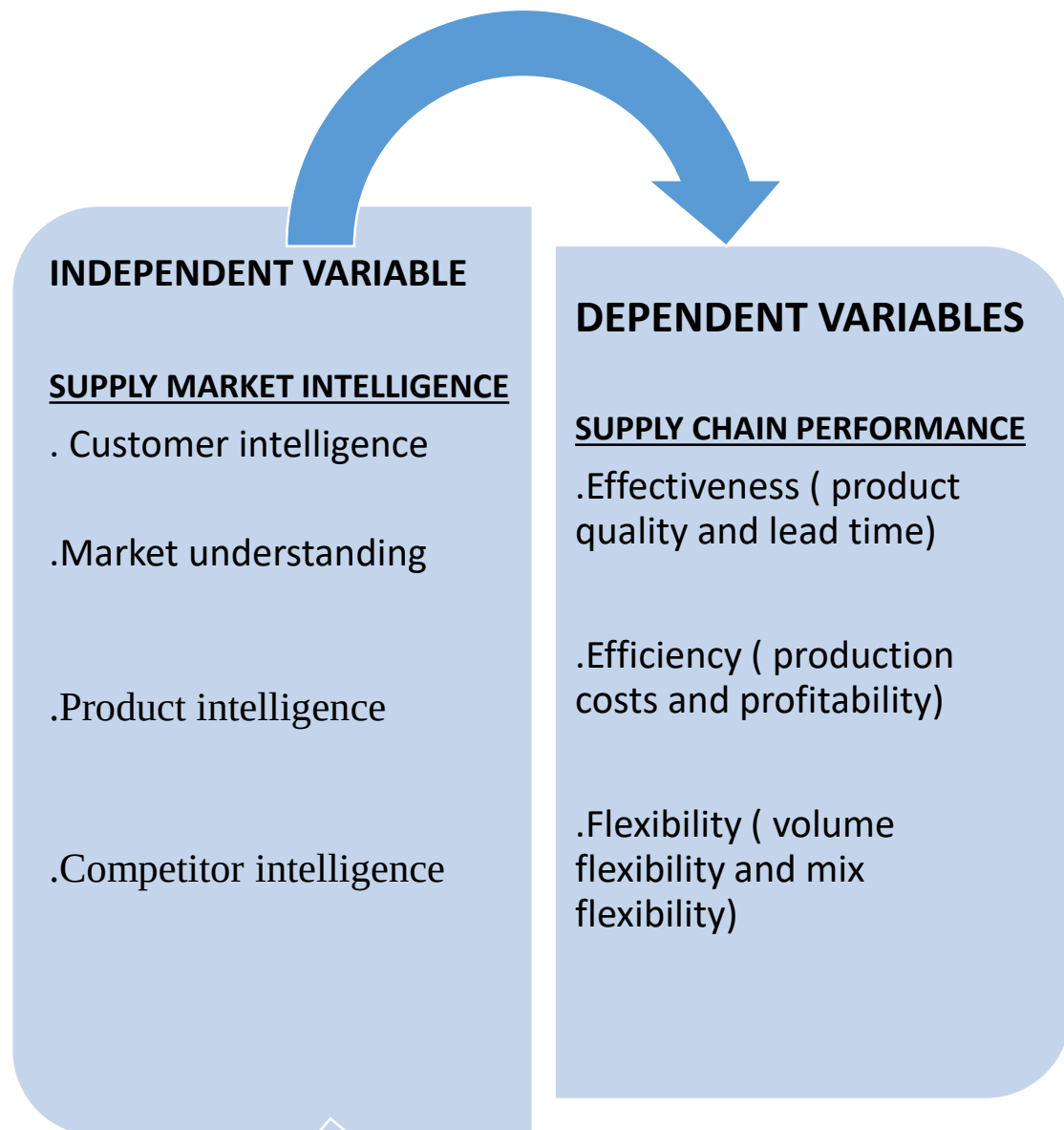


Figure 2:1 Conceptual Framework ; Source: Primary data

2.8 Empirical Literature Review

A lot of researches on the relationship which exist between supply market intelligence and the performance of the Zimbabwean dairy supply chain have proven beneficial. Empirical research on the elements impacting dairy supply chain performance, such as milk market participation, risk factors, and sales volume, are also evaluated.

(Chari, 2017), the assessment of disaster risk reduction strategies in dairy supply chains in Zimbabwe.

(Chari, 2017) conducted study on the evaluation of disaster risk mitigation measures in Zimbabwe's dairy supply networks. In this study, the data was gathered in two stages. In phase 1, the data was gathered using a quantitative technique in which dairy farmers were requested to fill out a questionnaire. In phase 2, dairy officers and retailers were interviewed using two distinct interview guides, utilizing a qualitative approach. Drought, animal illnesses, political and economic conditions all put dairy farmers at risk and also disaster risks have a detrimental impact on the performance of the dairy supply chain network. Collaboration was deemed insufficient to improve the dairy supply chain's performance.

(Mishra and Shekhar, 2012) came to varied results and suggestions in their study of supply chain risks in the Indian dairy sector. Staff training and education, continual quality improvement across the supply chain, incentivizing producers to join societies, and cooperation among stakeholders are all part of their strategy. (Shields, 2011) stressed the importance of forwards contracts, hedging futures and options, keeping cash reserves, government aid, diversification of farm activities, and obtaining off-farm income in a study on risk management measures for dairy producers.

(Kipkorir, 2017), Factors influencing performance of dairy farming projects in Cherangani sub country, Trans-Nzoia County, Kenya.

The purpose of this study was to determine the characteristics that influence the performance of dairy farming initiatives in Kenya's Cherangany sub-county, which is part of the Trans-Nzoia County. The study revealed that institutional management, socioeconomic variables, profitability, and production characteristics all had an impact on the project's performance. The performance of the dairy farming project is aided by adequate institutional management skills, favorable government policies, and institutional management practices. In terms of the impact of socioeconomic variables, the study found that having a sufficient family income and practicing religion improves the success of dairy farming operations. The study found that the average output of the dairy cattle selling price, daily dairy cattle quantity yield, and milk demand stimulate the performance of dairy farming projects in the rural parts of the Cherangany sub country, Trans-Nzoia County, Kenya. Finally, the study found that the stage of dairy cow breeding, the number of dairy animals to retain, and the area under dairy production all contribute to the success of the dairy farming project in Kenya's Cherangany sub-county, Trans-Nzoia County.

(Charumbira, 2019), Impact of upstream supply chain coordination on the performance of Zimbabwean Agro-processing organizations.

The study's goal was to describe and evaluate the influence of upstream coordination among agro-processing enterprises in the Zimbabwean agro-processing supply chain, concentrating on its contribution to organizational performance. The study also aimed to determine the impact of upstream cooperation on the effectiveness of Zimbabwean agro-processing firms and their supply networks. The study found that coordinating upstream operations among Zimbabwean agro processing companies had a favorable influence on the industry by achieving a competitive advantage, ensuring timely delivery of raw materials and supplies, and improving product quality. Organizational profitability, customer happiness, increased market share, increased profit margins, and expense savings were among the other beneficial outcomes.

(Chaudhuri,2011), Issues in customer intelligence data and method creativity to improve marketing decision making.

The study's goal was to develop a knowledge model that focused on Indian national enterprises' market competencies. The study came up with a number of conclusions, the most significant of which is that knowledge may be exploited in competitive competition and that desired goals can be achieved regardless of the rate at which organisations advance technologically. Marketing intelligence aids in better serving clients and maximizing business margins. The company's management experience and client feedback complement each other in developing the company's plan for long-term success and fame.

(Vineesh et al, 2018), Enhancing dairy manufacturing through customer feedback.

The study's goal was to find out how satisfied consumers were with dairy products in order to offer helpful information to producers, which could be used to improve the quality of items provided. Consumers of dairy products from varied demographic backgrounds from all over South India participated in the study. The findings of this study revealed that, while high-quality items are delivered, it is critical that they reach clients when and where they need them. The simplicity with which the things are supplied is just as crucial as the product's quality. Because most dairy products are perishable, the study determined that producers must make precisely enough to meet demand. Failure results in inadequate commodities or excess inventory, the former of which results in unfulfilled demand and the latter in higher inventory expenses. The issue of anticipating demand based on sales was suggested by the researcher.

(Aramyan et al, 2006), Measuring supply chain performance in the agri-food sector.

The goal of this research was to contribute to the creation of a Performance Measurement System (PMS) for agri-food supply chains that contains a comprehensive set of performance indicators and involves the entire chain. The study focused on the vegetable supply networks in the Netherlands. The researcher investigated the elements that determine the success of Dutch vegetable producers, and the findings revealed that the marketing channel chosen had an effect on grower

performance. The researchers also conducted a literature analysis of existing supply chain performance metrics and models. The conceptual framework was tested in a Dutch-German tomato supply chain and then refined into a condensed model that only included the most important performance metrics. The findings revealed that efficiency, flexibility, responsiveness, and food quality are four critical performance components that serve as the foundation for an agri-food supply chain performance assessment system.

2.9 Gap analysis

Because elements that hold in stable economies cannot hold in Zimbabwe, this study must focus primarily on Zimbabwe's supply chain performance. The majority of the researches mentioned above were conducted in wealthy nations outside of Africa. Because there had been so few in Zimbabwe, the researcher opted to fill in the gap. The findings are influenced by policy differences, the time period in which the studies were conducted, and the degree of development of the study locations. As a result, a study on the impact of supply market intelligence on the supply chain performance of Zimbabwe's dairy sector is required.

2.10 Summary

The chapter has covered the literature relevant to the study in theoretical, empirical framework and the sources of information to be used during the course of the study. The following chapter will look into the research methodology of the study.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methods utilized to collect data from the field and meet the study's objectives. It also included research design, sample methodologies, research instruments, data analysis, and data collection strategies.

3.2 Research design

A research design is a blueprint that defines the tools and processes that may be utilized to gather and evaluate data related to the research questions. A research design, according to (Creswell, 2003), is a plan of action that connects philosophical assumptions to particular procedures. It's also known as a set of advanced choices that, when combined, form a master plan or blueprint for conducting an investigation. To improve the reliability and completeness of the data acquired, the researcher employed both qualitative and quantitative methodologies. Quantitative and qualitative research methodologies, according to (Creswell, 2014), should be considered as complementary and appearing on a continuum, with one research leaning toward either extreme. The merits of other methodologies utilized in the same study balance out the flaws of one research tool. Interviews with employees, distributors and milk product sellers were conducted as part of the qualitative research. The researcher was able to acquire information from respondents who are active in the day-to-day operations of the dairy sector supply chain using qualitative

data. A standardized questionnaire was administered to department heads, daily production and procurement managers, as well as retail workers, as part of the quantitative research strategy.

3.2.1 Descriptive Research

The research used a descriptive approach to explore the link between supplier market intelligence and the performance of Zimbabwe's dairy supply chain. Descriptive studies, according to Cooper and (Schindler, 2011), try to explain a phenomena by calculating a fraction with comparable features and determining correlations between the variables being researched. It aids in the critical study of the information in issue as well as the development of more thorough recommendations that may be implemented. According to (Walliman, 2011), descriptive research designs rely on observations for data collection. The researcher was able to offer a full account of the influence of supply market intelligence on the supply chain performance of Zimbabwe's dairy sector thanks to descriptive study.

3.3 Population and Sampling

Dairy producers, processors, wholesalers, retailers, and consumers in Zimbabwe's dairy sector made up the study's population. A population, according to (Kolb, 2008), is a set of items that share characteristics identified by a researcher. Due to time constraints, funding, and access, it was not feasible to cover all of these subjects, thus the study relied on a representative sample of the population of 50 people and a sample size of 40 people to make conclusions. Dairiboard (Harare), Alpha and Omega (Mazowe), Dendairy (Kwekwe), Kelshmer (Bulawayo), and Sedgemor were the five key players studied.

3.4 Sampling Techniques

The researcher employed both convenience and judgmental sampling techniques. When questionnaires were given and semi structured interviews were done with employees, distributors, head of departments and managers when the researcher organizational sites convenience sampling was employed. There was no sampling frame from which a random sample could be chosen, ensuring that each employee,

distributor, retailer and manager had an identical chance of being included in the sample. In circumstances where it is difficult to identify all members of a population, convenience sampling is the sensible approach, according to (De Vos, 1998). Convenience sampling is a less time-consuming and cost-effective alternative to random sampling.

Judgmental sampling was used by the researcher when distributing questionnaires to the production and procurement managers, logistics personnel and other players in Zimbabwe's dairy supply chain. The judgmental sample was done by identification of the respondents that have direct interaction with the firm's decision making and planning team since they might have the know-how of whether their organization is utilizing supply market intelligence or not. The respondent's job experience and abilities in the dairy industry were also taken into account by the researcher.

3.5 Data Sources

Primary and secondary sources were used by the researcher in collecting data which was used to determine performance of dairy products in the supply chain, usefulness of market supply intelligence on product delivery, impact of supply market analysis on the availability of dairy products and the effect of supply market intelligence on the supply chain performance of Zimbabwe's dairy sector at large.

3.5.1 Primary Data

Primary data was collected through questionnaires, observations, and interviews. Primary data is advantageous since it directly answers the study issue, and the researcher has control over the level of accuracy error that will be produced, (Kumar, 2005). The researcher, on the other hand, had to spend a lot of money and time gathering the data.

3.5.2 Secondary Data

According to (Kothari, 1995), secondary data is information that has previously been gathered by other researchers and statistically analyzed. Secondary sources included publications in Purchasing and Supply Management, textbooks, previous research, and the internet.

3.6 Research Instruments

Research instruments are tools which are designed so as to help the researcher in collecting data in his/her topic of interest. Questionnaire and interview are effective tools when conducting research in education.

3.6.1 Questionnaires

Questionnaires are constructed with agree or disagree kind of responses, multiple choice selected answers, and open-ended questions where the respondent replies depending on his or her own knowledge, (Borg and Gall, 2008). Questionnaires are a convenient and rapid approach to get information from a big number of individuals. In this study, the researcher employed standardized, written, and closed questions. The questionnaire was prepared with the study questions and objectives in mind, and the surveys were distributed using a hand post. Questionnaires optimize individual comfort by allowing participants to react on their own without the presence of a second party, and they provide anonymity, putting respondents at rest and motivating them to submit honest responses. Because the questionnaires were designed to collect as much information as possible, the researcher was able to focus on other areas of research while the replies were coming in. However, due to the effort spent preparing and interpreting the questionnaire, it became costly.

3.6.2 Interviews

In a research, interviewing is asking questions and receiving responses from participants. According to (Trigueros, 2017), interviewing may take many different forms, including individual face-to-face interviews and face-to-face group interviews. The asking and responding of questions can be mediated by telephone or other technological devices, (Robert Wood Johnson Foundation, 2006). To target detailed impressions, opinions, and attitudes, the researcher employed a face-to-face interview. The interview was conducted using a questionnaire by the researcher.

3.7 Reliability and Validity

The degree of consistency demonstrated by the instrument or technique is referred to as reliability. Replication of questions phrased in different ways was used to assess the instrument's reliability. Validity refers to a tool's ability to measure what it claims to measure. It was done in this study by triangulation, which included the use of observations, questionnaires, and interviews to confirm that the tools utilized accurately measured the theoretical notion.

3.7.1 Pilot Study

Before the questionnaires were widely distributed, a pilot research was done to assess the instrument's reliability and validity, as well as to eliminate any unclear items prior to the full-scale study. It allowed the questions to be fine-tuned to a level that responders could comprehend.

3.7.2 Ethical considerations

Ethics are the rules and principles that guide an individual's behavior and the researcher adhered to them while doing the study. Ethics are intended to safeguard participants from harm that may arise as a result of data release. Participants were assured confidentiality, as well as the ability to withdraw from the study, and the researcher did not compel anybody to participate.

3.8 Data Presentation

The researcher employed bar charts, tables, and pie charts to aid in the successful interpretation of data. Pie charts concisely depict an overview of the data collected, whilst bar charts and data tables provide a detailed analysis of trend changes over time.

3.9 Data Analysis

The data was analyzed using both quantitative and qualitative methods. The researcher employed descriptive statistics such as measure of central tendency to evaluate quantitative data in this study. In order to provide a clear trend of data, the researcher employed a variety of analytic methodologies.

3.10 Chapter Summary

This chapter described the methods utilized to acquire data, as well as the tools and strategies employed by the researcher in conducting and analyzing the study. The next chapter provides an overview of data presentation, analysis, and study findings discussion.

CHAPTER IV

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

This chapter focuses on study findings and demonstrates both qualitative and quantitative data analysis collected through questionnaires and interviews. The questionnaire results were quantitatively analyzed using SPSS Version 20. This research sought 40 possible responders to a questionnaire in Zimbabwe's dairy industry. The questionnaire got 30 replies, representing a 75 percent response rate. The interview received a 100 percent response rate, with 10 interviewees from various dairy firms. In addition, the researcher employed qualitative methodologies to analyze data gathered through interviews. Tables and bar charts were used to show the data.

4.2 Demographic data

The demographic data focuses on the gender, age of respondents, level of education, and experience in the dairy sector, job title and location.

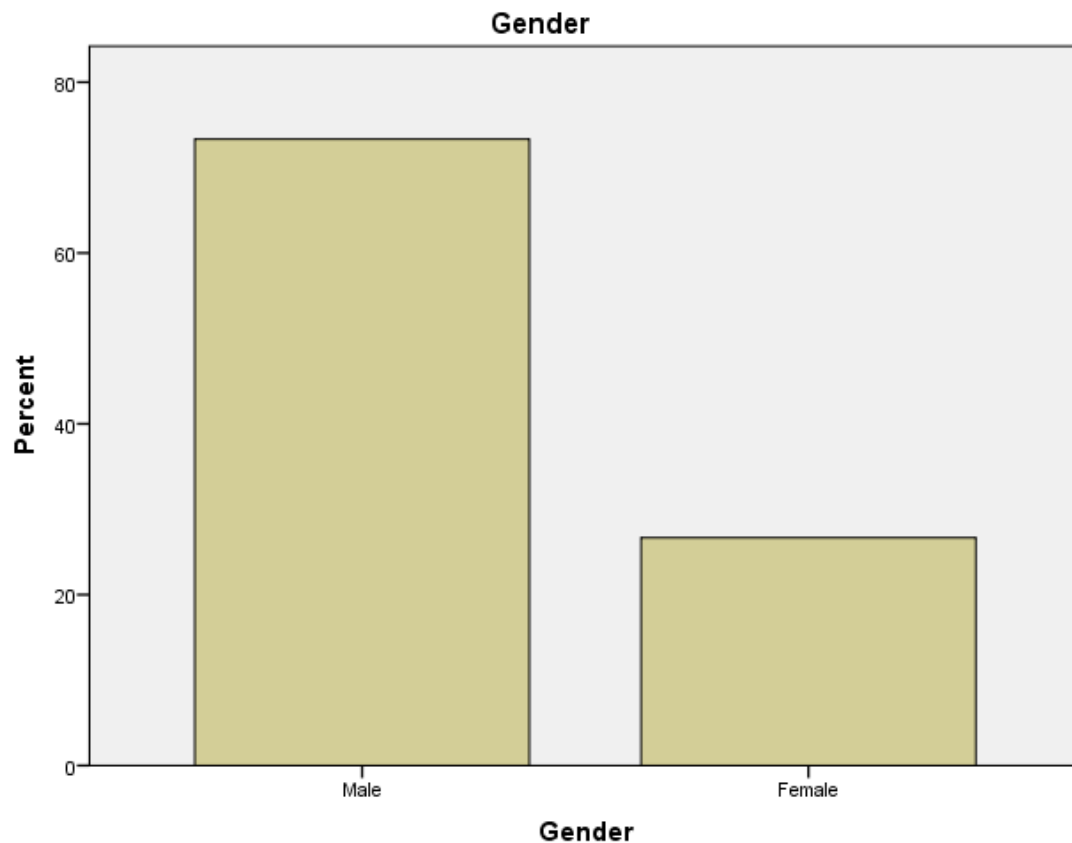


Figure 4:1 Gender of respondents

According to Figure 4:1, 73 percent of respondents were males and 27 percent were females. The dairy industry has an imbalanced gender distribution. This is consistent with the findings of (Chari, 2017), who conducted a study on disaster risk, the impact of disaster risks on dairy farming, and disaster risk reduction techniques, with 85 percent of respondents being male and 15 percent being female.

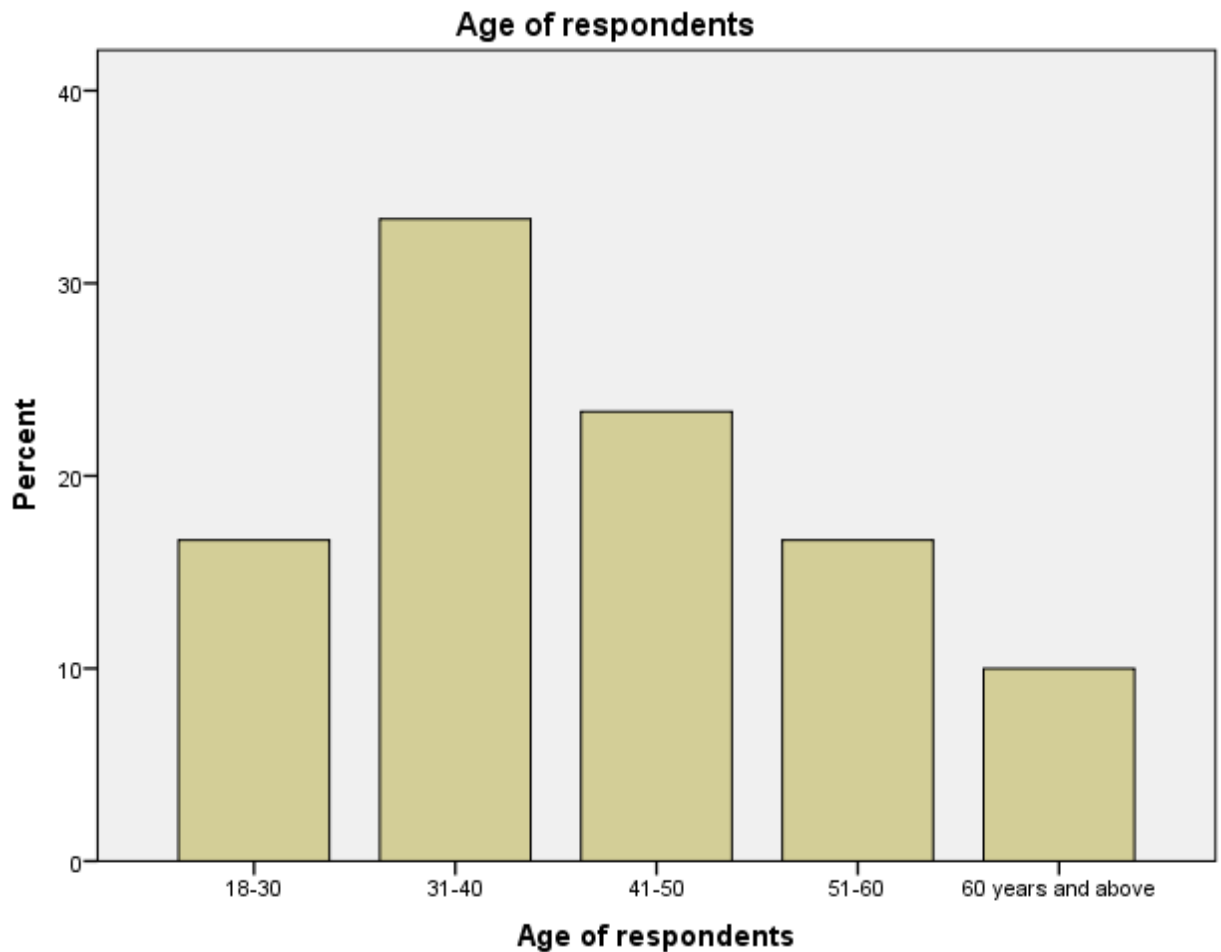


Figure 4:2 Age of respondents

Figure 4:2 depicts the age distribution of the respondents; it is clear that the majority of respondents (33%) are between the ages of 31 and 40, with a sizable number (23%) falling between the ages of 41 and 50. 17 percent were between the ages of 18 and 30, and 17 percent were between the ages of 51 and 60. 10 percent of the respondents were 60 years and above. According to (Al Sagga, 2017), organizations aim to hire young individuals for marketing roles because they are more enthusiastic and creative, and they can gather knowledge about market trends and client preferences that can be leveraged to benefit the company.

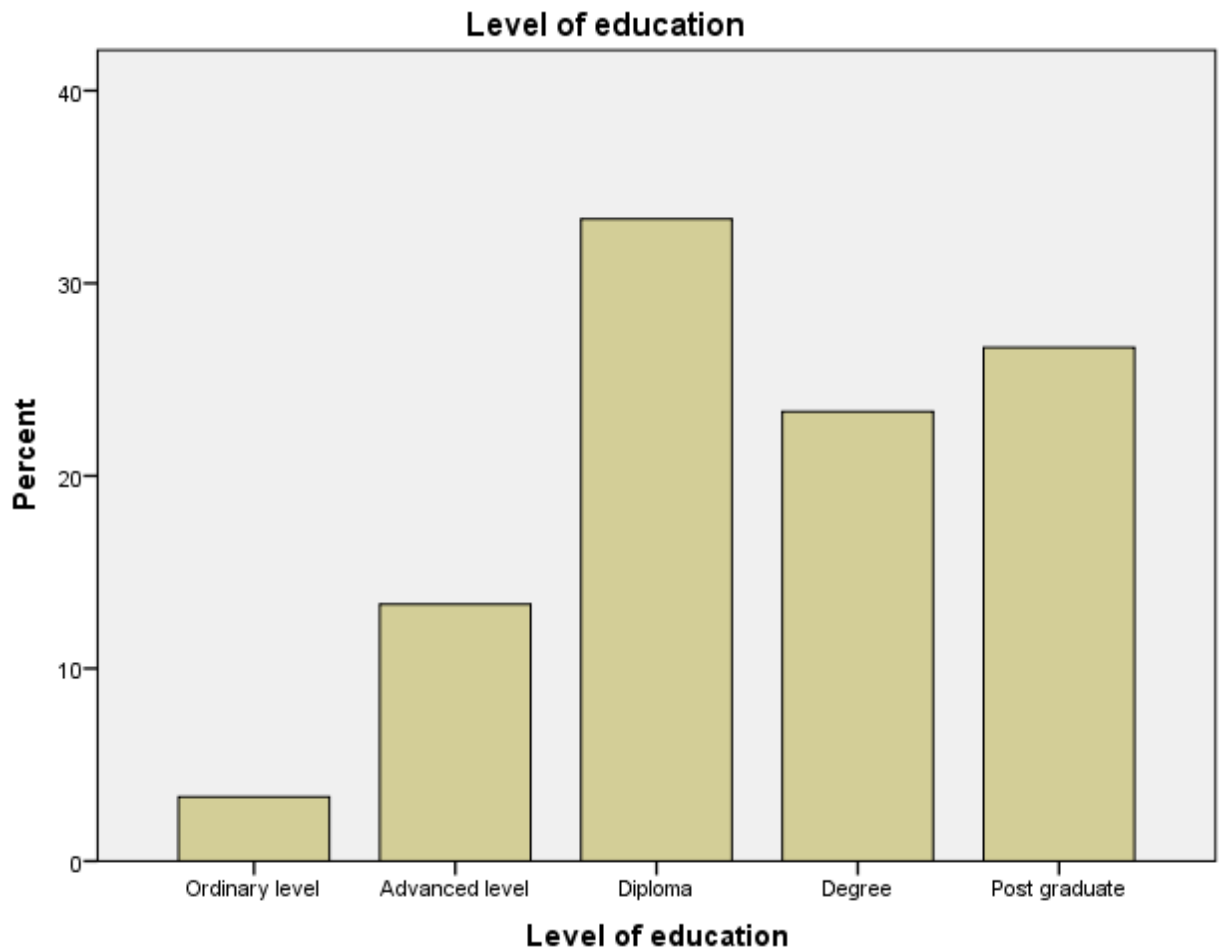


Figure 4:3 Educational attainments of respondents

Figure 4:3 depicts the educational achievement of the respondents, revealing that the majority had earned at least a Diploma, with 33 percent having a Diploma, 23 percent having a Degree, 27 percent being postgraduates, and 17 percent having ordinary and advanced level certificates. This is consistent with the country's high literacy rate, and most businesses hire people who have the knowledge, skill, and ability to conduct research and implement market intelligence.



Figure 4:4 Experience in the dairy sector

According to Figure 4:4, 33% of respondents had 11-15 years of experience in the dairy sector, 30% had 6-10 years of experience in the dairy sector, 20% had 0-5 years of experience, and 17% had 16 years or more of experience in the dairy sector. According to (Hargraves, 2008), supplier market analysis is done to create correct and confident judgments in procurement procedures; therefore experienced workers do such jobs more professionally.

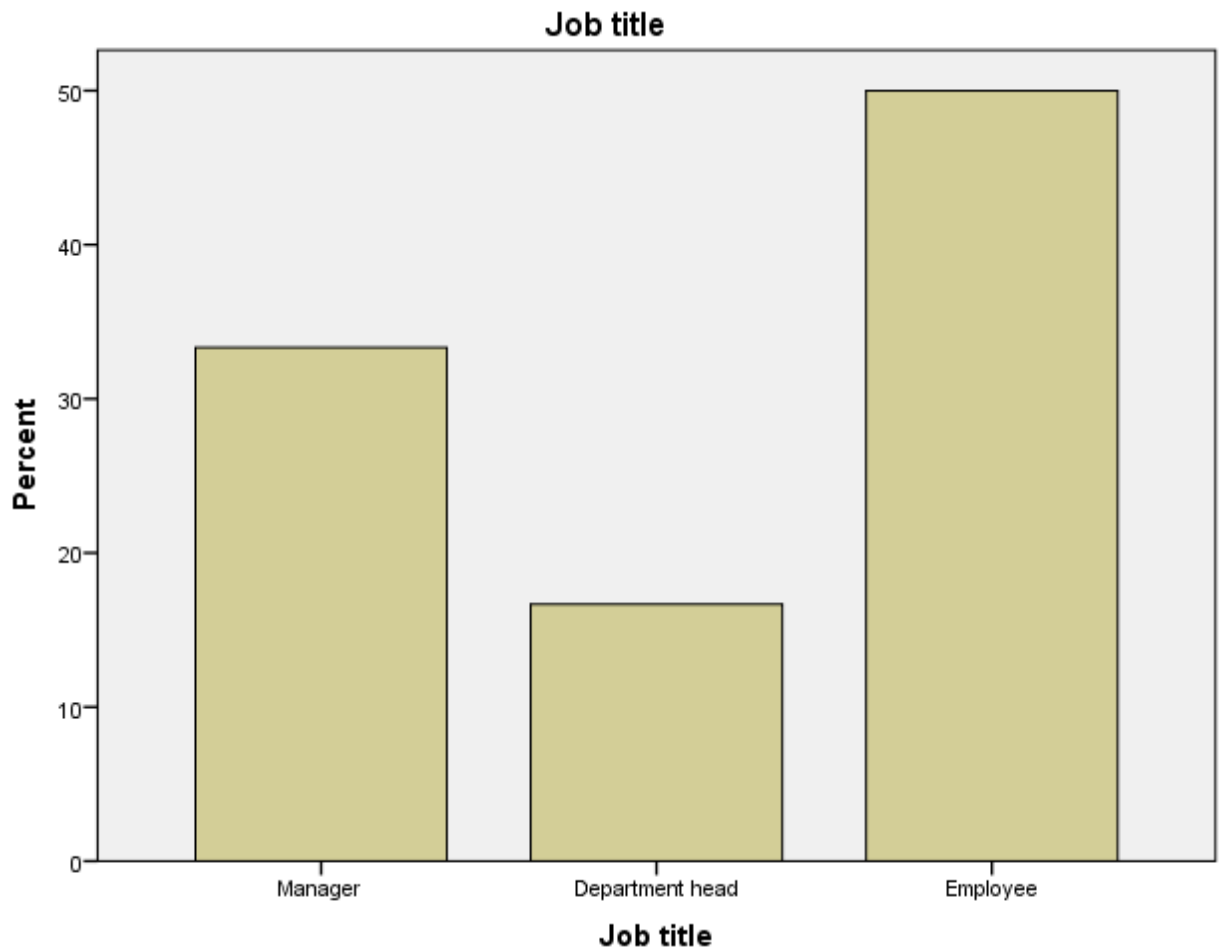


Figure 4:5 Job titles of respondents

According to Figure 4:5, 50 percent of respondents were employees, 33 percent were managers, and 17 percent were department heads. The researcher mostly questioned workers since they were easily available and were involved in the day-to-day operations. Due to their busy schedules and back-to-back meetings, it was difficult to interview key management officials.

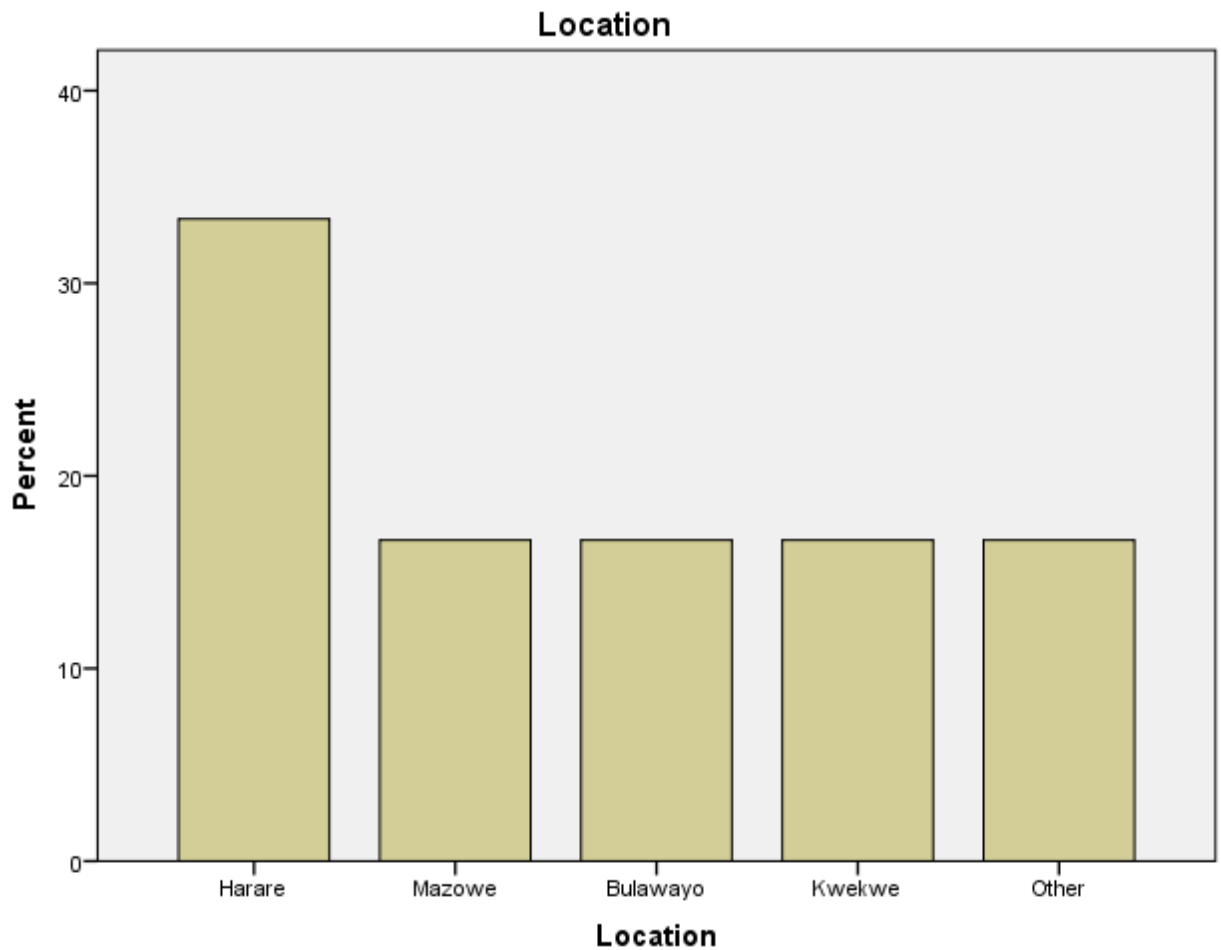


Figure 4:6 Locations

According to Figure 4:6, 33 percent of respondents were from Harare and 67 percent were from other locations. The findings were in line with the findings carried out by (Charumbira, 2019), 54.2 percent of firms' answers were from Harare province, owing to the fact that the bulk of corporations have migrated to Harare, which is also Zimbabwe's capital city and where most companies have their headquarters.

4:3 Elements of Supply market intelligence

In this section the researcher analyses and discusses how the different elements of supply market intelligence are being implemented in various organizations. The researcher focuses on four elements which are customer intelligence, market intelligence, product intelligence and competitor intelligence.

4.3.1 Customer Intelligence

Table 4:1 Customer intelligence

Customer intelligence elements	N	Minimum	Maximum	Mean	Standard Deviation
1.The company utilize data collection methods to discover customer challenges	30	3	5	4.33	.758
2.The company analyses customer behavior to measure their loyalty	30	4	5	4.67	.479
3.The company uses acquired information to determine customer needs and specification	30	4	5	4.50	.509
4.The company identifies target groups after diving customers	30	4	5	4.67	.479
5.The company continually works with customers to increase their product awareness	30	4	5	4.83	.379

Source: Primary data

Based on table 4:1 all items from 1 up to 5 have mean which is between 4.33 to 4.83. These results were analyzed to evaluate the degree to which dairy enterprises gain from consumers information. More than 80% of respondents agree that their organizations apply customer intelligence when determining demand, customer preference and brand loyalty. Only a small percent were unsure that their organizations employ data collecting strategies to find consumer concerns.

According to the responses, dairy companies constantly communicate with customers in order to gather information from them, and they also keep customer data, which allows them to identify the nature of customers, preferences, and patterns. The findings were backed by a research conducted by (Chaudhuri, 2011), which stated that market information helps keep consumers pleased and also outlined that management experience and customer opinion complement each other in establishing a company's strategy.

4.3.2 Market Intelligence

Table 4:2 Market intelligence

Market intelligence elements	N	Minimum	Maximum	Mean	Standard Deviation
The company benefits from the obtained information to predict opportunities and threats in the market	30	4	5	4.83	.379
The company uses available information to determine market size	30	3	5	4.17	.913
The company utilizes obtained information to determine market and technological trends	30	2	5	3.83	1.085
The company obtain information from published reports and articles to know market changes	30	2	5	4.00	1.174

Source: Primary data

According to table 4:2, market intelligence had positive standard deviation in the dairy sector which implies that around 83.3% of respondents believed that the knowledge gained helps their organizations forecast opportunities and dangers in target markets. The respondents also agreed that their organizations use available information to establish market size, while only a few were uncertain. The respondents agreed that their organization uses offered information, articles, and published reports to stay up to date on market and technology developments.

4.3.3 Product intelligence

Table 4:3 Product intelligence

Product intelligence elements	N	Minimum	Maximum	Mean	Standard Deviation
The company gathered information to discover market prices	30	2	5	3.57	.971
The company uses all sources to know the product quality and kind offered in the market	30	2	5	4.00	1.017
The company compares the characteristics of its products specifications to those offered by the competitor	30	4	5	4.67	.479
The company is developing new products and adding features in their content benefiting from the available information	30	3	5	4.33	.758

Source: Primary source

Based on the results of table 4:3, more than 50 percent of respondents agree that their organization produces new products and adds features to its content using the information at their disposal. 66.7 The respondents also agreed that their organization

compares product qualities and specifications to those supplied by competitors. From the respondents 73.3 percent agree that the corporation uses all available sources to acquire information about the quality of the items on the market. The respondents also agreed that their organization receives adequate information to determine market pricing.

In general, it is clear from all four product intelligence elements that companies in the dairy sector develop new products, add features to their material, compare their product attributes and specifications to those of competitors, and use all available sources to collect information on product quality and market prices.

4.3.4 Competitor intelligence

Table 4:4 Competitor intelligence

Competitor intelligence elements	N	Minimum	Maximum	Mean	Standard Deviation
The company monitor competitor ways of doing business	30	2	5	3.83	1.085
The company identifies their existing and potential competitors investigating and sharing information	30	4	5	4.67	.479
The company analyses the available information to predict the reactions of each competitor	30	2	5	3.83	1.085
The company benefit from the information received to avoid competitor surprises and reduce reaction time	30	4	5	4.67	.479

Source: Primary data

Based on the results of table 4:4 with a standard deviation of 0.479 and 1.085 it shows that the company successful identifies existing and potential competitors through investigation and information sharing, only a few were uncertain that the company

identifies existing and potential competitors through investigation and information sharing. A small number of respondents which is 33.3 percent disagree that the company monitors competitor business practices. The respondents also agreed that the firm benefits from the information acquired in order to minimize rival shocks and reduce reaction time.

4.4 Impact of supply market intelligence on supply chain performance

Effectiveness

Table 4:5 Impact of supply market intelligence on effectiveness

Effectiveness	N	Minimum	Maximum	Mean	Standard Deviation
High quality products are a result of supply market intelligence in the organization	30	1	3	1.57	.774
Customer complaints and lead time are reduced by implementing customer intelligence	30	1	2	1.27	.450

Source: Primary data

From the results of table 4:5 it is evident that most dairy organizations implementing supply market intelligence are producing high-quality products. In the dairy industry, good quality is one of the most significant dimensions of supply chain performance, and it is critical to manufacture high quality products as part of the needs of an efficient supply chain. The product's safety and design are both indicators of its quality. These findings are backed by a study by (Aramyan et al, 2006), who argued that it is critical to disclose information regarding food quality and safety across supply chain participants in order to improve supply chain performance. In addition, the study found that management commitment improves food quality, which has a

favorable effect on supply chain performance. The researcher also found out from the interviewees that apart from supply market intelligence there are other factors which improves supply chain effectiveness in terms of product quality such as having the required dairy infrastructure. Dairy products require good storage facilities and proper transportation and also power cuts affect the quality of milk during the cooling process. The researcher also found out that to improve supply chain performance there is greater need to employ individuals who have experience in quality control.

Based on table 4:5, applying customer intelligence reduces customer complaints and lead time. These findings are supported by (Aramyan, 2006), it is critical for a company to understand a customer's expectations and to minimize lead time by gathering information and implementing techniques to reduce manufacturing and packaging time. Customer complaints and lead times are reduced, resulting in improved supply chain performance. From the interviewees the researcher also found out that interaction with customers helps to know the needs of customers thereby meeting their expected demand resulting in satisfied customers with fewer complaints. Knowing customer expectation enables organizations in the dairy sector to plan their delivery times and dates.

Efficiency

Table 4:6 Impact of supply market intelligence on supply chain efficiency

Efficiency	N	Minimum	Maximum	Mean	Standard Deviation
The cost of production in the organization are reduced by implementing supply market intelligence	30	1	3	2.33	.758
Supply market intelligence results in an increase in profitability in the organization	30	1	3	2.10	.759

Source: Primary data

Based on the results of table 4:6 it is evident that only a few dairy organizations are achieving efficiency in their supply chains through the implementation of supply market intelligence. A research conducted by (Kipkorir, 2017) on the factors

impacting the performance of dairy farming initiatives backs up these findings. The researcher discovered that the cost of manufacturing may determine whether a project succeeds or fails. As a result, it is critical for dairy companies to implement supply market intelligence. Adopting all techniques and tactics to enhance operational efficiency, which will raise a firm's profitability, may make it simpler for an organization to cut operations and production expenses. The researcher also discovered that it is essential to meet all the expenses incurred from the acquisition of the raw milk up to the production process, these expenses affect the milk products selling price and this enlighten the firm when assessing their profitability level.

Flexibility

Table 4:7 Impact of supply market intelligence on supply chain flexibility

Flexibility	N	Minimum	Maximum	Mean	Standard Deviation
The company's volume and mix flexibility increased after the use of supply market intelligence	30	1	2	1.17	.379

Source: Primary data

Based on the results of table 4:7, to achieve supply chain flexibility, dairy companies should also use sales to assess volume flexibility. According to the interviews and respondents, dairy companies utilize customer information, product intelligence, and market intelligence to estimate volume flexibility. According to a research conducted by Aramyan (2007), organizations that utilize mix flexibility improve customer satisfaction by providing items requested by consumers on time. However the researcher also discovered from the interviewees that it is difficult to influence volume flexibility due to constant demand fluctuations but firms in the dairy sector are trying to achieve volume flexibility to a certain extent by trying to forecast demand over a period of years. When organizations achieve customer satisfaction it shows that there was flexibility in their supply chain.

4.5 Chapter summary

In light of the literature studied in Chapters 2 , this chapter analyzed and discussed the study findings. This study's results will be summarized in Chapter 5. It will also go through each of the objectives and discuss future research proposals.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The overall goal of this research was to determine the effect of supply market intelligence on the performance of Zimbabwe's dairy supply chain. The study's background revealed that the performance of Zimbabwe's dairy supply chain was harmed by obstacles such as the COVID-19 epidemic, disaster risks, and energy shortages. Milk output fell short of yearly need, according to (Phiri, 2014). The goal of the study was to see how supply market intelligence affected supply chain performance.

5.2 Conclusion

The researcher summarizes the study objectives and themes from the introductory chapter in this part. There were three main objectives for this study. A mixed methods strategy was used to achieve the study objectives, which included giving a questionnaire to dairy industry personnel and the management team, as well as conducting interviews with dairy distributors and retailers. SPSS version 20 was used to analyze the questionnaires.

Supply market intelligence results in an effective dairy supply chain to a greater extent. When an organization implement customer intelligence, product intelligence, market intelligence and competitor intelligence it results in reduced customer complaints, a decrease in the lead time, improved product appearance and high-quality products which meet the required health and safety standards.

Supply chain performance is positively affected by supply market intelligence in that an effective implementation of customer intelligence, product intelligence, market intelligence and competitor intelligence results in an efficient supply chain the reason is that technical efficiency and allocative efficiency will be met.

Supply market intelligence improves a company's volume and mix flexibility to a greater extent. The implementation of volume and mix flexibility enhances customer satisfaction through the provision of products requested and expected by customers in time.

5.3 Recommendations

- The findings of this research have relevance for supply chain participants as well as policymakers. The findings of this study may be used by supply chain players to better their operations by incorporating supply market intelligence into their supply chains for competitive positioning and improved supply chain performance.
- The findings of this study may be used by policymakers to better understand the function of supply market intelligence and to suggest relevant initiatives and policies to improve supply chain performance in the country. By involving all stakeholders in the industry, this research can give insights to policymakers and the government, aiding them in making policy modifications to promote information flow and strengthen interactions between players in supply chains.
- Policymakers might undertake training by delivering extensions services to suppliers through the Ministry of Agriculture in order to create a continuous flow of cooperation across Zimbabwean agro processing organizations and enhance supply chain performance.
- Power struggles, political influence, financial issues, a lack of credit conditions, dishonesty, and opportunistic behaviour of actors were all emphasized in the study. Managers should expand their use of supply market intelligence in the supply chain through continuous engagement, resource sharing, input availability, investment in alternative power sources, and improvements in information sharing frameworks to reduce these challenges.

- To boost trust in the dairy business, retailers and milk processors should invest in the development and marketing of animal feeds for dairy producers.

5.4 Recommendations for future researches

- Future research might concentrate on officials' involvement in regulation and the creation of a framework to govern the dairy industry's operations.
- The impact of supply market intelligence on Argo processing firms' marketing success.
- The influence of supply market intelligence on manufacturing businesses' strategy decisions.
- The importance of market intelligence in maximizing profit in the dairy industry.

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APPENDIX I: QUESTIONNAIRE

BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF COMMERCE

ECONOMICS DEPARTMENT



My name is Tanaka F.Manyunzu and I am a student at Bindura University of Science Education and currently studying for a Bachelor of Commerce Honours Degree in Purchasing and Supply. I am conducting a study titled "**Effect of supply market**

intelligence on the supply chain performance of Zimbabwe's dairy sector"

Therefore, the researcher used this questionnaire to find the elements of supply market intelligence used bby the dairy sector in achieving effectiveness, efficiency and flexibility in their supply chain performance.

We really hope for your help in filling out the attached questionnaire. All your responses will be treated confidentially and the results will only be used for this research. We really appreciate your cooperation.

Student Name: Tanaka F Manyunzu Supervisor: Dr F. Chari

Signature **Signature**

Date **Date**

Instructions to the respondent

- 1 Please answer the following questions by placing a check mark in the appropriate box for each next question.
- 2 In response to some of the questions where indicated, more than one check mark may be given.
- 3 Please feel free to provide additional information or a detailed description of your answer to the questions by commenting in the space below on some of the questions that make up this questionnaire.

SECTION A: DEMOGRAPHIC DATA

1. GENDER

Male	1
Female	2

2. How old are you?

18-30	1
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31-40	2
41-50	3
51-60	4
60+	5

3.Level of education

O' Level	1
A' Level	2
Diploma	3
Degree	4
Post graduate	5

4. Location

Harare	1
Mazowe	2
Bulawayo	3
Kwekwe	4
Other	5

5. Experience in the dairy sector

0-5 years	1
6-10 years	2

11-15 years	3
16 years and above	4

6. Job title

Manager	1
Department head	2
Employee	3

INSTRUCTIONS: INSTRUCTIONS: Below is a list of supply market intelligence elements. Please rate how strongly you agree or disagree that the following elements of supply market intelligence are being implemented in your organisation by placing a check mark in the appropriate box.

1- Strongly disagree

2- Disagree

3- Uncertain

4- Agree

5- Strongly agree

SECTION B

Supply market intelligence elements implemented in your organisation	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
Customer Intelligence					

7. The company uses data collection methods to discover challenges faced by customers.	5	5	3	2	1
8. The company analyses the behavior of customers to measure their loyalty to the company	5	4	3	2	1
9. The company makes use of information provided to it in determining customer needs and specifications of dairy products.	5	4	3	2	1
10. The company is dividing customers into categories and identifying the target group when doing marketing activities	5	4	3	2	1
11. The company continues with customers constantly in order to increase customer awareness about the company's products.	5	4	3	2	1
Market intelligence	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
12. The company benefits from the information obtained to predict opportunities and threats in target markets.	5	4	3	2	1
13. The company utilizes the information available to them to determine the market size	5	4	3	2	1
14. The company uses information provided to it to find the market trends and technological trends	5	4	3	2	1
15. The company benefits from published reports and articles to know the changes in the market.	5	4	3	2	1
Product Intelligence					

16. The company gathered enough information to find out the prices on the market.	5	4	3	2	1
17. The company uses all possible sources to gather information on the kind and quality of products offered in the market.	5	4	3	2	1
18. The company compares the characteristics of its product specifications to those offered by the competitor.	5	4	3	2	1
19. The company is developing new products and adding features in their content benefiting from the information available to them.	5	4	3	2	1
Competitor Intelligence					
20. The company identifies their existing and potential competitors through investigation and information sharing.	5	4	3	2	1
21. The company monitor competitor ways of doing business (strategies, tactics, plans and policies)	5	4	3	2	1
22. The company analyses the available information to predict the reactions of each competitor.	5	4	3	2	1
23. The company benefit from the information received to avoid competitor surprises and reduce the reaction time.	5	4	3	2	1

SECTION C

INSTRUCTIONS: Please indicate to what extent do you agree with each of the following statements by placing a check mark in the appropriate box.

1- Greater extent

2- Lesser extent

3- Uncertain

Impact of supply market intelligence on the dairy supply chain performance.	Greater extent	Lesser extent	Uncertain
EFFECTIVENESS			
24. High quality products a result of supply market intelligence in the organisation.	1	2	3
25. Customer complaints and lead time are reduced by implementing customer intelligence.	1	2	3
EFFICIENCY			
26. The cost of production in the organisation are reduced by implementing supply market intelligence.	1	2	3
27. Supply market intelligence results in an increase in profitability in the organization.	1	2	3
FLEXIBILITY			
28. The company's volume and mix flexibility increased after the use of supply market intelligence.	1	2	3

