BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF COMMERCE

DEPARTMENT OF ACCOUNTANCY

EMPLOYEE PERCEPTIONS ON INVENTORY MANAGEMENT CHALLENGES AND OPERATIONAL EFFICIENCY AT PULSE PHARMACEUTICALS

BY

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE BACHELOR OF ACCOUNTANCY HONORS DEGREE OF BINDURA UNIVERSITY OF SCIENCE EDUCATION, FACULTY OF COMMERCE.

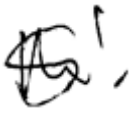
2022-2026

APPROVAL FORM

I confirm that this research project was presented in accordance with the faculty's criteria and the undergraduate project typing guidelines. The work 'Employee Perceptions on Inventory Management Challenges and Operational Efficiency at Pulse Pharmaceuticals is appropriate for submission to Bindura University of Science Education's Faculty of Commerce.

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DISSERTATION TITLE**:** Employee perceptions on Inventory Management Challenges and Operational Efficiency at Pulse Pharmaceuticals

YEAR GRANTED: 2026

DEGREE TITLE**:** Bachelor of Accountancy Honors Degree.

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Dedication

I dedicate this dissertation to my beloved family for support and encouragement throughout this academic journey.

Above all, I dedicate this work to Almighty God, the giver of wisdom, knowledge and understanding.

Abstract

The study examined employee perceptions of inventory management challenges and operational efficiency at Pulse Pharmaceuticals in Zimbabwe. The study was motivated by persistent stock imbalances despite the company generating annual revenues exceeding US$8 million. Pulse Pharmaceuticals experienced critical medicine stock-outs of about 28%, surplus inventory of approximately US$3.2 million in low-demand medicines, high inventory holding costs, and annual losses of nearly US$850,000 due to product expiration and obsolescence. These challenges constrained working capital, weakened service delivery, reduced operational liquidity, and threatened the company's financial sustainability in an unstable economic environment. The study therefore sought to understand how specific inventory management practices influenced the financial and operational performance of the company. The study was guided by four objectives: to explore employees' perceptions of the strengths of current inventory management systems and practices; to identify weaknesses in existing systems; to examine opportunities for improvement; and to investigate threats affecting inventory management effectiveness and operational efficiency. A qualitative research design was adopted to capture detailed employee experiences and interpretations. The target population comprised 25 employees from procurement, warehousing, distribution, finance, sales, marketing, management and information technology. Purposive sampling was used to select information-rich participants, and 10 semi-structured interviews were conducted until data saturation was reached. Data were analysed using thematic analysis with the assistance of Atlas.ti.25. Findings revealed that Pulse Pharmaceuticals had some strengths, including established supplier relationships, procurement approval procedures, stock arrangement practices, expiry monitoring and customer responsiveness. However, major weaknesses included poor demand forecasting, experience-based ordering and inaccurate stock records. Participants identified opportunities such as digital integration, real-time inventory

dashboards, barcode scanning, staff training and stronger accountability systems. Key threats included foreign currency shortages, exchange rate instability, supplier delays, expiry losses, theft and customer migration. The study recommends integrated inventory systems, improved forecasting, ABC-VEN classification, and stronger stock control procedures.

Acknowledgments

I express my gratitude to Almighty God, the Lord of Wisdom, for granting me knowledge, understanding and direction throughout this project. Proverbs 2:6 reminds me that wisdom comes from the Lord, and this gave me strength and inspiration to complete this work.

I would also like to express my sincere appreciation to my supervisor I am truly grateful for your guidance, supervision and encouragement throughout this project, despite your busy schedule.

To my family and friends thank you for your special comforting words and assistance. Psalms 42:8 reminds me that dreams can come true.

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ABBREVIATIONS

ABC	Always Better Control
AI	Artificial Intelligence
IT	Information Technology
RBV	Resource-Based View
S&OP	Sales and Operations Planning
SOP	Standard Operating Procedure
SWOT	Strengths, Weaknesses, Opportunities and Threats
USD	United States Dollar
VEN	Vital, Essential and Non-essential
VMI	Vendor Managed Inventory
WHO	World Health Organization

CHAPTER I

INTRODUCTION

1.0 Introduction

The chapter introduces the study by locating inventory management within pharmaceutical operations and operational efficiency. It presents the background, problem statement, purpose, objectives, research questions, significance, assumptions, delimitations, limitations, definition of terms and chapter summary. The chapter establishes the justification for examining employee perceptions at Pulse Pharmaceuticals.

1.1 Background of the Study

Inventory management is a key operational activity in pharmaceutical firms as it impacts the availability of medicines at the right time, right quantity, at the correct price, and in a usable state (World Health Organization, 2024). However, in the pharmaceutical industry inventory is not a normal stock type (Olaniran et al., 2022). It is made up of products that are lifesaving and health supportive and have expiry dates, storage conditions, regulatory requirements and are prone to demand fluctuations and supplier lead times (Ayalew, Alemu and Worku, 2026). This in turn impacts on the business performance and health outcomes (George and Elrashid, 2023; Chari and Kamninga, 2025). A good inventory management and demand forecasting have been found to enhance the performance of a pharmaceutical supply chain by minimizing stock out, reducing the cost and increasing the responsiveness of the service provision (George and Elrashid, 2023).

Pharmaceutical inventory management includes pharmaceutical demand forecasting, reorder points, stock control, batch expiry, monitoring the condition of the stock, ensuring timely replenishment and coordination of suppliers (World Health Organization, 2024). According to the World Health Organization (WHO, 2024), selection, quantification, procurement, storage and distribution are important stages of

medicine supply management. This may lead to either stock-outs of fast-moving medicines or overstocking of slow-moving medicines, if any of the stages are weak (Deressa et al., 2022). This imbalance is costly for a business as it could lose customers because of products not being available, while also using precious working capital to hold onto products which don't sell fast enough (Balkhi et al., 2022).

Pharmaceutical industry in Zimbabwe is working in a challenging economic landscape where foreign currency shortages, dependence, regulations, price volatility and logistics challenges abound (Ministry of Industry and Commerce, 2021; U.S. International Trade Administration, 2026). The pharmaceutical manufacturing strategy mentions that the sector is also impacted by the low level of local production, high reliance on imports, inadequate financial resources and obsolete equipment (Ministry of Industry and Commerce, 2021). In recent years, there has also been evidence indicating that medicine stock out is related to weak supply chain management, lack of funding, delays in deliveries and lack of infrastructure in Zimbabwe (Chari and Kamninga 2025). This creates challenges for pharmaceutical distributors and retailers in managing inventory as consumer demand can fluctuate rapidly while their order timelines are unpredictable (Takawira and Pooe, 2024).

Pulse Pharmaceuticals works in this volatile market, and must manage availability, cost containment, and liquidity. High annual revenues exclude operational efficiency when the business has a high inventory turnover level, rate of product expiration and/or stock-outs. Inefficient inventory can have adverse effects on cash flow, customer satisfaction, competitiveness, as well as holding costs. Operational efficiency is demonstrated in pharmaceutical operations through product availability, order fulfilment, minimisation of product wastage, accurate products documentation and timely replenishment and coordination between various departments in the pharmaceutical business such as procurement, warehouse, sales, finance, and distribution departments. Employee perceptions have an important role to play because they have direct contact with businesses inventory systems, stock records, procurement issues, inventory practices, supplier interaction and customer complaints. What they have encountered can highlight strengths, weaknesses, opportunities and threats not just reflected in the

numbers. A qualitative study of employee perceptions is therefore a good choice for the researcher to understand as to how the challenges of inventory management and the operational efficiency are perceived, interpreted and connected at the Pulse Pharmaceuticals.

1.2 Statement of the problem

The management of inventory is the major problem facing Pulse Pharmaceuticals that risk the financial sustainability of the company in the unstable economy of Zimbabwe. Although the company has been making high annual revenues of over 8 million USD, it has continued to record high levels of stock imbalances, which have both affected service delivery and financial performance. The existing inventory management is leading to stockout levels of close to 28% in vital drugs and having a surplus inventory worth around 3.2 million USD in low-moving items. This inefficiency paralyzes the working capital badly required to provide operational liquidity in a system that pharmaceutical companies have average working capital cycles of over 180 days (Zaheer et al., 2023).

In addition, the company reported that the inventory holding costs are costing the company about 22% of gross profit margins which is way above the industry level of 12% of profit margins in efficiently managed pharmaceutical companies. Moreover, there are also product expiration and obsolescence-related losses that cost the company almost 850,000 USD every year, almost 5.7% of inventory value. This is enhanced by the fact that the delays in the procurement of foreign currencies averages 95 days and fluctuating demand trends that make it difficult to plan its inventory. Unless better inventory management practices are adopted, Pulse Pharmaceuticals is prone to worsening financial results, loss of competitive presence and inability to perform the critical role that it is playing in the healthcare sector of Zimbabwe. Therefore, the research question of this work was the influence of inventory management practices on the financial performance of the company.

1.3 Aims of the study

The study sought to examine employee perceptions of inventory management challenges and their effect on operational efficiency.

1.4 Specific Objectives

i. To explore employees' perceptions of the strengths of the current inventory management systems and practices at Pulse Pharmaceuticals.
ii. To identify the weaknesses associated with the current inventory management systems and practices at Pulse Pharmaceuticals.
iii. To examine opportunities for improving inventory management practices and enhancing operational efficiency at Pulse Pharmaceuticals.
iv. To investigate threats that may affect the effectiveness of inventory management systems and operational efficiency at Pulse Pharmaceuticals.

1.5 Research Questions

i. What strengths do employees perceive in the current inventory management systems and practices at Pulse Pharmaceuticals?
ii. What weaknesses and challenges do employees perceive in the current inventory management systems and practices?
iii. What opportunities exist for improving inventory management practices and operational efficiency at Pulse Pharmaceuticals?
iv. What threats may affect the effectiveness of inventory management systems and operational efficiency at Pulse Pharmaceuticals?

1.6 Significance of the Study

The study is important to policy, practice and theory. In terms of policy, the findings may help inform pharmaceutical supply chain reforms in Zimbabwe by showing how inventory management affects profitability. This can assist institutions such as MCAZ and the Ministry of Health and Child Care in promoting digital inventory systems, better demand forecasting and reduced medicine wastage

The study is significant to Pulse Pharmaceuticals because it can help them find a practical solution that would lead to reduction in stockouts, excess stock, expiry losses, and working capital pressure.

It can help managers better predict, order, coordinate warehouses, and make business decisions. The study might also be helpful to the employee by providing an opportunity to have their day-to-day experiences heard.

The study is also significant to the researcher as it provides an opportunity to develop practical research skills in qualitative research, data collection, thematic analysis and the use of ATLAS.ti.25. The study also enhances the researcher's understanding of pharmaceutical inventory management and the factors affecting operational efficiency.

Pharmaceutical inventory management is a research area that is still underutilised in Zimbabwe and academically it provides qualitative evidence.

1.7 Assumptions

- The study assumed that the employees who were chosen for interviews had experience in one or more inventory-related processes and had provided truthful answers.
- It also assumed that it was easy to see current inventory issues in the functional departments.
- The researcher also assumed that qualitative interviewing would produce rich qualitative data pertaining to the strengths and weaknesses, opportunities and threats related to inventory management and operational efficiency.

1.8 Delimitation of the Study

The study was confined to the Pulse Pharmaceuticals and only employee perceptions of the problems in inventory management and operational efficiency were explored. It included staff members from procurement, warehouse, distribution, finance, sales, marketing, and management and information technology.

The study design was qualitative and only interviews were conducted. It did not perform financial ratio analysis and statistical testing or comparisons of itself with other pharmaceutical companies.

1.9 Limitations

- The study was constrained by the small number of participants and by the subjective nature of the data collection, which is based on the perception of the

employees, and may include personal bias, or departmental interests. Perhaps some of the participants were hesitant to provide sensitive information because of concerns about potential managerial implications.

- The single company focus also restricts the generalisation. To enhance depth, credibility and trustworthiness, however, purposive sampling, confidentiality, probing questions and thematic analysis methods were applied.
- Since the researcher was still undertaking an undergraduate degree, time was a constraint because there was a need to balance dissertation work with other academic modules.

1.10 Definition of Key Terms

Inventory management: Planning, control and monitoring of inventory to ensure products are available in adequate quantities and minimize stock imbalance, wastage and cost (Deressa et al., 2022).

Stock-out: A situation where a required product is unavailable when needed, resulting in unmet demand, delayed service delivery or lost sales (Olaniran et al., 2022).

Overstocking: Carrying stocks of more items than expected demand which results in high storage costs, high capital investment and risk of stock out (Balkhi et al., 2022).

Operational efficiency: The ability of an organisation to deliver products or services using minimum resources, time and cost while maintaining quality and responsiveness (George and Elrashid, 2023).

Pharmaceutical supply chain: A set of activities, organisations and processes that are linked together in sourcing, holding and transporting medicines to the final customer (WHO, 2024).

1.11 Chapter Summary

This chapter introduced the study by explaining the importance of inventory management in pharmaceutical operations. It found that despite impressive revenues, Pulse Pharmaceuticals are not spared of stock-outs, excess inventories, losses due to expiry and working capital pressure. The purpose, objectives, research questions,

significance, assumptions, delimitations and key terms were outlined in the chapter. The next chapter reviews literature relevant to inventory management and operational efficiency.

CHAPTER II

LITERATURE REVIEW

2.1 Introduction

The chapter reviews literature on inventory management systems and operational efficiency in the pharmaceutical sector. It introduces the framework of concepts, theoretical framework, strengths and weaknesses of pharmaceutical inventory management, opportunities and threats. The chapter also pinpoints the gap in research. The focus is on recent literature, particularly with a focus on pharmaceutical supply chains, stock control, demand forecasting, digitalisation and resilience.

2.2 Theoretical review

The study is informed by three complementary theoretical perspectives: the Resource-Based View, Contingency Theory and systems thinking.

2.2.1 Resource-Based View (RBV) Theory

According to the Resource-Based View (Huang et al., 2023), the performance of an organization is better if they have resources and capabilities that are valuable, rare, difficult to imitate and well organized (Huang et al., 2023; Papalexi et al., 2022). These resources include skilled workers, reliable information systems, forecasting abilities, supplier relationships, warehouse facilities and management knowledge and skills. (Shen et al., 2024). This idea has been expanded by recent research on supply chains, which indicates that the integration of digital technologies and supply chain capabilities into the routine of organisations can help enhance their resilience and performance (Huang et al., 2023). Inventory systems are more than just administrative tools to Pulse Pharmaceuticals, they can be a competency that strengthens or weakens the company's competitiveness.

2.2.2 Contingency Theory

Contingency Theory (Oh et al., 2020) is also applicable considering that the management of pharmaceuticals inventory does not happen in a stable environment. Foreign currency delays, supplier lead times, demand changes, regulatory demands,

storage capacity and macroeconomic volatility (Takawira and Pooe, 2024; U.S. International Trade Administration, 2026) are some of the factors that affect it. Information technology, relational competence, supply chain integration and collaboration positively impact contingency management and operational performance during disruption as revealed in the contingency based supply chain studies (Oh et al., 2020). This theory is helpful because it doesn't apply a size fits all solution. Pulse Pharmaceuticals need to take steps towards inventory practices that are suitable for the Pharmaceutical Market in Zimbabwe.

2.2.3 Systems Thinking

The study is also reinforced by the concept of systems thinking as inventory challenges typically arise due to interdependence between departments (Wilden, Hopkins and Sadler, 2022). The procurement process has an impact on warehousing, which in turn influences distribution, and sales forecasts influence purchasing, finance influences access to foreign currency and supplier payment (Oh et al., 2020; Wilden, Hopkins and Sadler, 2022). In the article that provides a background on the problem, research from the pharmaceutical supply chain indicates that weak coordination, poor data visibility and delayed delivery are not necessarily due to one department's failure to do their job well, but rather multiple factors that can cause stock-outs and inefficiencies (Chari and Kamninga, 2025; Zuma, 2022).

These theories can be used to inform a qualitative study of employee perceptions. Pulse Pharmaceuticals employees can be given an indication of whether the company has valuable inventory capacities, whether current practices are suitable for the uncertainty of the environment and whether departments are an integrated system. Thus, the theories offer a solid foundation to analyse the strengths, weaknesses, opportunities and threats in terms of operational efficiency.

2.3 Empirical Evidence

2.3.1 Strengths of Inventory Management Systems and Practices in the Pharmaceutical Sector

The pharmaceutical industry has a number of strengths for inventory management systems. A system of inventory management is used to enhance the availability of products, particularly essential medicines, through restocking when the level of stock comes close to reaching minimum threshold (George and Elrashid, 2023). George and Elrashid (2023) reported that the inventory level control and demand forecasting were positively and significantly related to the performance of pharmaceutical supply chain. That is, companies that have well-established reorder points, reliable inventory and demand data will be better equipped to minimize their stockouts and be able to meet customer demand (Shen et al., 2024).

Effective inventory helps minimize waste in batches, track the stages of product expiration and ensures that old products are sold first, new ones last (Deressa et al., 2022). Expires control is one of the key efficiency measures in pharmaceutical operations, as once the stock is expired, it is not sale-able and it could pose legal and ethical issues (Olaniran et al., 2022). Systemic inventory processes, such as electronic systems, augment this process by enabling the staff to identify slow-moving products and those close to expiration at early stages (Shen et al., 2024). Zuma (2022) concluded that implementing e- stock management and having dedicated health workers in the hospital improves the availability of medicines and the negative aspects of stock control.

Well-designed systems will help maintain good financial control and in most cases pharmaceutical stocks will be a significant proportion of working capital (Balkhi et al., 2022). Appropriately categorising stock, e.g. using ABC and VEN analysis allows managers to focus on high value and important medicines whilst minimising unnecessary investment in low moving products (Deressa et al., 2022; Mfizi et al., 2023). This will increase the liquidity and decrease the holding costs (Mfizi et al., 2023). In addition, inventory systems are effective in enhancing inter-departmental

coordination (Wilden et al., 2022). Accurate stock information is crucial for the procurement, finance, warehousing, distribution and sales processes (Shen et al., 2024). Seeing inventory data from different departments allows for more rational and less reactive purchasing decisions (George and Elrashid, 2023). Digital drug inventory systems, such as artificial intelligence and vendor-managed inventory models, have been demonstrated to enhance the efficiency of the drug supply chain, minimise inventory inaccuracies and streamline drug inventory across various facilities (Shen et al., 2024).

Lastly, correct stock management boosts consumer pleasure and enhances the organization's standing (Papalexi et al., 2022). Reliability is important in the pharmaceutical industry as customers demand reliable access to medicines (Olaniran et al., 2022). A company that supplies all the necessary products at suitable costs will be able to gain the trust of the customers and improve its operations (George and Elrashid, 2023; Papalexi et al., 2022).

2.3.2 Weaknesses Associated with Current Inventory Management Systems and Practices in the Pharmaceutical Sector.

Stock-outs, overstocking, expiry losses, record-keeping errors, and inadequate working capital management are common challenges in the pharmaceutical industry, which are typically associated with weak inventory management systems (Zuma, 2022; Chari and Kamninga, 2025). Stock-outs are of special concerns as they lead to disruption of access to medicines, diminish customer confidence and result in lost sales (Olaniran et al., 2022). Witnesses from Zimbabwe indicate that drug stock-outs are associated with inadequate supply chain management, lack of financial resources, and past drug stock-outs and delivery delays (Chari and Kamninga, 2025). This evidence is primarily related to public health supply chains, but the key supply chain issues are equally applicable to private pharmaceutical companies in a similar economic context (Chari and Kamninga, 2025; Takawira and Pooe, 2024).

The second one is inadequate demand forecasting. Disease patterns, prescriber behaviour, seasonal influences, product competition and sudden government calls for action on public health are among the many factors that can impact pharmaceutical demand (George and Elrashid, 2023; Ayalew et al., 2026). The firms that use the orders of past years without considering changes in demand could see situations where they have excess stock of less demanded products, but not enough of more demanded ones (Balkhi et al., 2022). George and Elrashid (2023) demonstrate that one of the important factors that drive the performance of the pharmaceutical supply chain is the demand forecast, suggesting that poor forecasting has an impact on operational efficiency.

There are often inaccuracies in stock data generated by manual or fragmented inventory systems (Zuma, 2022). Zuma (2022) presented that weak stock control and lack of electronic ordering system negatively impact medicine provisioning, while manual medicine stock systems do also. Combined with the SOP in a company like Pulse Pharmaceuticals, misinformation can lead to reordering of overstocked products and the inability to place orders for items that are almost out. Low levels of department coordination, which leads to poor coordination performance, affects inventories (Wilden et al., 2022). A lack of reliable information regarding stock may lead to sales committing without knowing if there is enough inventory, a lack of accurate demand information may lead to procurement buying without knowing if there is enough demand in the system, and finance may pay without realizing the ramifications of the operation due to a lack of accurate information (Oh et al., 2020). This way of making decisions leads to longer lead times and lower responsiveness (Papalexi et al., 2022).

Finally, there is a financial constraint due to inventory weaknesses. Having excess stocks leads to the higher storage costs, higher working capital, and higher expiry risk (Balkhi et al., 2022; Obeidat, 2021). This can be particularly harmful in the pharmaceutical industry where storage conditions can involve temperature control, security and regulatory compliance (World Health Organization, 2024). Lack of robust inventory systems then leads to a decrease in operational efficiency and the sustainability of the businesses (George and Elrashid, 2023; Olaniran et al., 2022).

2.3.3 Opportunities for Improving Inventory Management Practices and Enhancing Operational Efficiency in the Pharmaceutical Sector

There are significant opportunities for improving inventory management and operational efficiency in pharmaceutical companies. Digitalisation is first up. An electronic inventory management system can enhance real-time visibility of inventory, automate reorder alerts, monitor batch numbers and expiry dates (Shen et al., 2024). An artificial intelligence and vendor-managed inventory system lowered the error in inventory and enhanced drug supply chain efficiency, as demonstrated by Shen et al. (2024). Pulse Pharmaceuticals might not immediately pull in complex and sophisticated artificial intelligence technologies, but it could start by implementing integrated digital dashboards, barcode scanning, and automated stock alerts. The second is the reinforcement of demand forecasting. By leveraging sales data, disease trends, seasonal patterns, and customer order data with supplier lead times, pharmaceutical companies can create more accurate forecasts (George and Elrashid, 2023). This is because a forecast should not be produced by one department (Papalexi et al., 2022). Sales and Operations Planning (S&OP) process allows sales, procurement, warehousing, finance and management to discuss demand assumptions and stock priorities collaboratively (Oh et al., 2020).

The company has greater opportunities to apply ABC and VEN analysis. ABC analysis is used to classify inventory by value, while VEN analysis is used to classify medicines as vital, essential or non-essential (Deressa et al., 2022; Mfizi et al., 2023). These methods can be used together to safeguard essential and high-value medicines against stock out and avoid over-investment in low priority medicines (Ayalew et al., 2026). This enhances service delivery and working capital management (Mfizi et al., 2023).

Supplier relationship management offers an opportunity to reduce lead-time uncertainty (Oh et al., 2020; Takawira and Pooe, 2024). Long-term supplier contracts, performance monitoring, framework contracts and alternative supplier lists minimise procurement delays and enhance availability (Oh et al., 2020). Research in contingency management suggests that during a disruption, collaboration and supply chain integration will enhance operational performance (Oh et al., 2020). Staff capacity development can

enhance system's use and accountability (Papalexi et al., 2022). Staff need training on stock rotation, expiry management, inventory classification, forecasting and data entry and exception reporting (Zuma, 2022; Shen et al., 2024). In employee-centred inventory systems, staff are not passive users; they are operational knowledge holders (Wilden et al., 2022). Their views can help in process redesign to minimize unnecessary mistakes and improve the efficiency of operations at Pulse Pharmaceuticals.

2.3.4 Threats that May Affect the Effectiveness of Inventory Management Systems and Operational Efficiency in the Pharmaceutical Sector

There are multiple internal and external threats that are faced by pharmaceutical inventory systems. The first major threat is macroeconomic instability (Takawira and Pooe, 2024). Businesses relying on imported products and inputs are facing difficulties because of foreign currency shortages in Zimbabwe (U.S. International Trade Administration, 2026). Access to foreign currency is a significant challenge for pharmaceutical companies, which can cause a delay in suppliers' payments; extend procurement cycles and even delay availability of vital medicines (U.S. International Trade Administration, 2026; Ministry of Industry and Commerce, 2021).

The Pharmaceutical Manufacturing Strategy has identified low production of pharmaceutical products locally and high importation of pharmaceutical products as key problems in the pharmaceutical sector in Zimbabwe (Ministry of Industry and Commerce, 2021). Firms are vulnerable to exchange rate fluctuations, international supplier delays, shipping delays and regulatory requirements changes due to import dependence (Ministry of Industry and Commerce, 2021; Takawira and Pooe, 2024). These risks can make even good inventory plans (Schleifenheimer and Ivanov, 2024) look weak. Uncertainty in demand compromises the efficiency of the operations (George and Elrashid, 2023). Purchasing patterns among the population and public health requirements may shift suddenly, as may patterns of disease, leading to a quick shift in demand for certain medicines (Ayalew et al., 2026). Pharmaceutical supply chain studies conducted during the COVID-19 period revealed impacts on demand planning, inventory management, logistics and supply coordination (Takawira and Pooe, 2024; Schleifenheimer and Ivanov, 2024). These findings are still relevant as

pharmaceutical companies are constantly faced with both normal and unusual demand shocks.

2.4 Conceptual framework

The study's conceptual framework is based on the link between the inventory management practices and operational efficiency. Inventory management practices cover stock control, forecasting, procurement planning, supplier coordination, inventory management in the warehouse, inventory record and expiry monitoring and information systems. Product availability, reduction in stock out, reduction in excess stock, reduced holding costs, reduction in expiry losses, timely distribution and improved customer responsiveness are all aspects of operational efficiency. The interpretative lens used to identify strengths and weaknesses, opportunities and threats is from the employees' perception. It is a given that good inventory management creates an efficient operation and a poor inventory system causes liquidity and service delivery issues and cost problems.

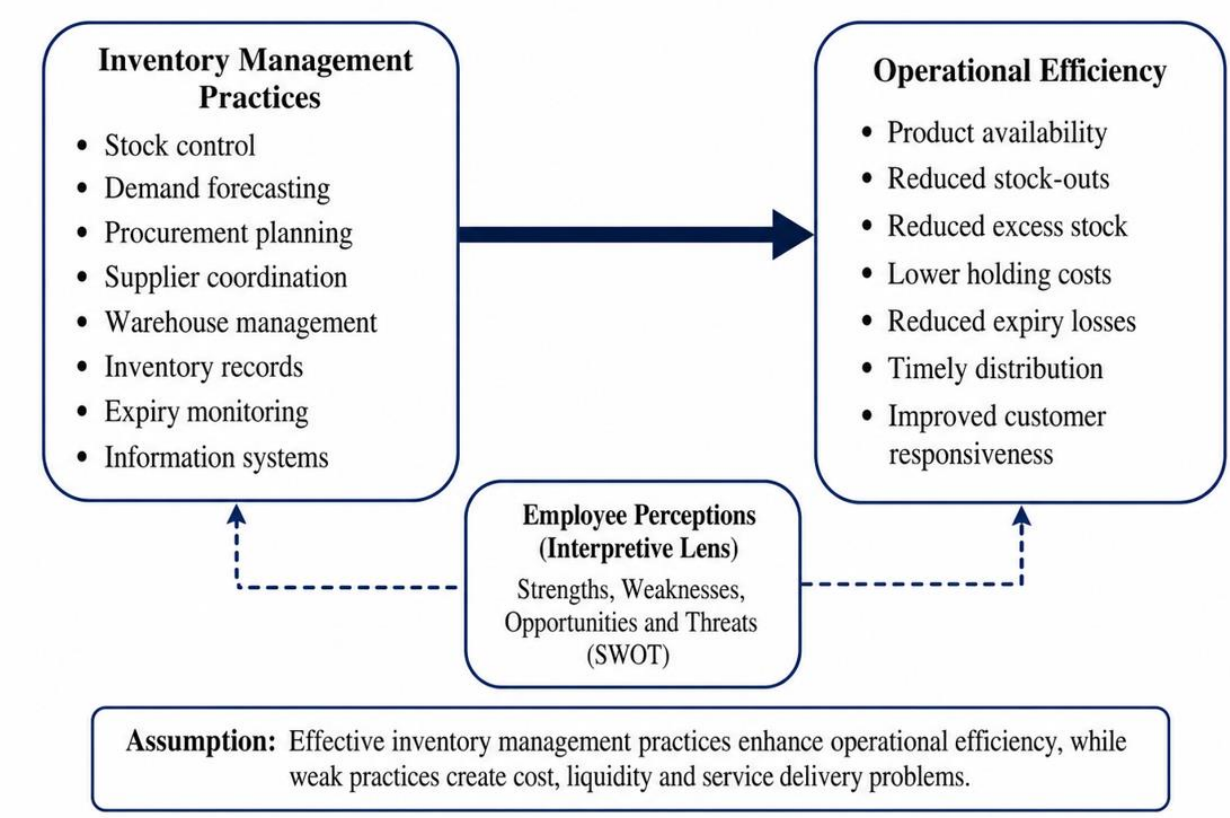


Figure 2.1 Conceptual framework

2.5 Research gap

The existing literature (George and Elrashid, 2023; Shen et al., 2024; Chari and Kamninga, 2025) confirms that inventory control, demand forecasting, digital systems, and supply chain coordination are substantial factors that positively impact pharmaceutical supply chain performance. However, most of the literature (George and Elrashid, 2023; Deressa et al., 2022) is quantitative, hospital-based, or is based on public health medicine supply systems. Only a few studies have been conducted on employee perceptions of inventory management problems in private pharmaceutical companies in Zimbabwe (Zuma, 2022; Chari and Kamninga, 2025). Some qualitative evidence is also available in limited quantities on how inventory management affects operational efficiency through a lens of strengths, weaknesses, opportunities and threats (SWOT). This study aims to fill that gap with the employees of the company Pulse Pharmaceuticals.

2.6 Chapter Summary

This chapter reviewed literature on inventory management and operational efficiency in the pharmaceutical sector. It shared the Conceptual Framework and the Theoretical Framework of: Resource Based View and Contingency Theory and Systems thinking. Pharmaceutical inventory system strengths, weaknesses, opportunities and threats were discussed in the review. It has set the foundation for good inventory management practices, which rely on accurate forecasting, digital visibility, expiry control, supplier coordination and employee competency. The methodology applied in the study is presented in the next chapter

CHAPTER III

RESEARCH METHODOLOGY

3.1 Introduction.

The chapter outlines the methodology used for the study of employee perceptions regarding the problems of inventory and operational efficiency in the organization of Pulse Pharmaceuticals. It explains the research design, target population, sampling techniques, sample size, data collection methods, interview guide, data collection procedure, trustworthiness of the research tools, data analysis and ethical considerations. The chapter justifies the use of a qualitative approach in the study.

3.2 Research Design

The study was conducted with a qualitative research design. A qualitative design was used as it was aimed at gaining insight into the perceptions, experiences and interpretations of the employees as opposed to measuring numerical relationships. Processes, decisions, behaviours and interactions with departments at Pulse Pharmaceuticals that could lead to problems with inventory should be explained in detail by using narratives. Qualitative research opens the opportunity for the participants to describe how stock-outs, overstocking, procurement delays, expiry losses, record inaccuracies and operational inefficiencies are experienced.

An exploratory case study methodology taking the example of Pulse Pharmaceuticals was used. This design was deemed appropriate as it was a study of a specific entity within its authentic context of operation (Priya, 2021). In the case study approach, the researcher was able to get rich and context-sensitive insights from the employees of various functional areas (Priya, 2021; Kiger and Varpio, 2020). To allow the researcher to ask common guiding questions, and to explore matters as they arose, semi-structured interviews were used.

The qualitative design was also in line with the SWOT based targets of study. Staff had opportunities to comment on their own perceptions of strengths, weaknesses, opportunities and threats. This helped in gaining a better understanding of the impact of inventory management practices on operational efficiency.

3.3 Target Population

The target population consisted of 25 employees from major functional areas at Pulse Pharmaceuticals. These encompassed procurement, warehousing, distribution, finance, sales and marketing, management and information technology. The departments are selected because they are directly or indirectly associated with the inventory planning, purchasing, inventory handling, data handling, customer fulfilment and financial control. Staff from these departments should be knowledgeable in the current inventory management practices, challenges and opportunities to improve inventory management. Since the aim of this study was of a qualitative nature, the target population was well suited.

3.4 Sample Size and Sampling Techniques

The participants for the study were purposively selected to include people with first-hand experience of the inventory management processes at Pulse Pharmaceuticals. The most appropriate sampling was purposive as the study did not focus on a representative sample, but rather several individuals that could provide detailed information and information that was relevant. Campbell et al. (2020) suggest that the quality of a qualitative study is enhanced by purposive sampling as the participants are chosen for their relevant experience with the study.

A principle of data saturation was used to determine the sample size. When the interviews no longer bring forth substantially new themes or insights, then the point of saturation has been reached. Guest et al. (2020) suggest that a systematic assessment of saturation should be employed instead of only stating that there is saturation. Additionally, Hennink and Kaiser (2022) demonstrate the many times that saturation is

achieved in qualitative interview studies within a narrow range of responses, with participants rich in information and the research questions narrow.

The number of 10 participants was included in this study, being the number of saturations. The participants included from procurement, warehousing, distribution, finance, sales, management, marketing and information technology. The final sample was deemed to be satisfactory as recurring patterns were observed in the issues of stock out, surplus stock, expiry losses, procurement delays, data accuracy, stock department coordination and supplier lead times. Thus, the sample was adequate for the purpose of thematic analysis.

3.5 Data Collection

Semi-structured interviews were used to gather the data. The researcher used this approach as it enabled the researcher to elicit detailed responses from employees whilst at the same time keeping to the aims of the study. The interviews allowed participants to share their real-life inventory issues, reasons for the problems and potential solutions. This technique proved particularly valuable since personnel in various departments could have various viewpoints of the inventory system.

3.5.1 Interview Guides

The interview guide was developed in line with the study objectives and research questions. It included the open-ended questions on four themes: strengths, weaknesses, opportunities and threats of the existing inventory management system. Questions explored stock control practices, demand forecasting, procurement processes, warehouse management, expiry monitoring, departmental coordination, information systems, supplier reliability and operational efficiency.

The guide also had some probing questions that were used to get clarification and examples. Participants, for example, were invited to discuss its impact on customer service, excess stock on storage and cash flow, and how the existing systems might be improved. The semi-structured design enabled flexibility and ensured that the

interviews had uniformity. Prior to data collection the guide was reviewed to improve the clarity, relevance and non-leading nature of questions. This enhanced the quality and authenticity of the responses.

3.5.2 Data Collection Procedure

The researcher first sought permission from Pulse Pharmaceuticals to conduct the study. Once approved, those who were interested were selected based on purposive selection criteria for their departmental role, experience and involvement in inventory-related processes. The participants were contacted, informed of the purpose of the study and invited to participate voluntarily.

Confidentiality, voluntary participation and right to withdrawal were explained by the researcher prior to each interview. All participants were informed and gave consent. The interviews were held in a quiet and convenient environment to enable the participants to speak freely. Interviews were conducted and audio recorded with permission and supplemented with field notes. All interviews were conducted around the four research objectives, and the participants had the opportunity to bring up other issues. Once data collection was completed, the data was transcribed and ready for thematic analysis.

3.6 Data Analysis and Presentation

Data were analysed using thematic analysis supported by ATLAS.ti25 software. In this research, thematic analysis was used to analyse data collected from semi-structured interviews. Thematic analysis refers to a technique for finding, analysing and reporting patterns (themes) in qualitative data. Thematic analysis was used because it is a method suitable for systematic identification and interpretation of patterns in qualitative data (Kiger and Varpio, 2020).

The researcher used ATLAS.ti.25 software to organize ,code and analyse qualitative data collected from the interviews. The software assisted the researcher in identifying patterns, relationships ,themes and sub-themes from participants responses through systematic coding of the interview transcripts. Similar responses were grouped together

and linked to objectives of the study, making the analysis more organized and reliable. The findings were then presented using themes and supported by direct quotations from participants to improve the clarity, credibility and trustworthiness of the study.

3.7 Trustworthiness

Trustworthiness is used to address reliability and validity in qualitative research. The study was conducted using principles of credibility, dependability, confirmability and transferability. Credibility was enhanced by using semi-structured interviews, probing questions and participants with direct operational knowledge. The use of the same interview guide in all participants and ensuring a clear research process were used to achieve dependability.

Confirmability was enhanced by keeping field notes and by making sure that findings were based on the responses of the participants and not on the researcher's assumptions. The issue of transferability has been solved by writing descriptions of the study context, the target population and methodology. Before use, the interview guide was discussed with the guide to ensure clarity and consistency with the research goals. Thematic analysis was carried out systematically in a way recommended in qualitative analysis (Kiger and Varpio, 2020).

3.8 Ethical Considerations

The study adhered to the following ethical standards. Data collection was authorized with the help of Pulse Pharmaceuticals. Participants were told the purpose of the study, their role, approximate length of the interviews, and that they were free to withdraw from the study without penalty. All participants gave informed consent. In the transcripts and report, the participants' real names were not used to preserve confidentiality. All data was used only for academic purposes and stored in a secure manner. The researcher refrained from causing harm by not forcing participants to reveal sensitive information. Honest and non-distorted findings were reported.

3.9 Chapter Summary

This chapter explained the methodology which was used in the study. It noted that the design of the study was qualitative exploratory case study, which it said was used to explore the challenges faced by employees with respect to inventory management and operational efficiency at Pulse Pharmaceuticals. Target population was 25 employees of key functional departments and purposive sampling was applied. Data saturation was reached at 10 participants, and the sample size was thus determined. Thematic analysis was used to analyse data gathered from semi-structured interviews. The chapter also contained an explanation of the concepts of trustworthiness and ethical considerations. The next chapter should present, analyse and discuss the findings.

CHAPTER IV

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction

The chapter presents, analyses and discusses findings from the qualitative interviews conducted with employees of Pulse Pharmaceuticals. The study aimed to explore the employee perception of the issues faced in inventory management and the efficiency of the operations. The data have been gathered from 10 participants who were selected from procurement, warehousing, distribution, finance, sales, marketing, management and information technology. Results are reported by the four research objectives. Thematic analysis with quotes from the participants in the study is used to illustrate how the employees perceived the strengths, weaknesses, opportunities and threats of the existing inventory management practices.

4.2 Interview Saturation Rate

Data saturation was reached after 10 interviews. Saturation was achieved when, at the point of maximum iteration, new themes, explanations and categories were no longer identified during additional interviews. At the eighth interview, there were definite trends beginning to develop in relation to stock availability, forecasting failures, expiry control, system integration, supplier delays and foreign currency limitations. The ninth and tenth interviews did not present new major concepts but reiterated the same issues. As a result, the final sample used of 10 was found to be sufficient for this qualitative study, as it produced rich, relevant and repetitive data relevant to the study objectives.

4.3: Demographics of Study Participants

Table 4 1: Demographic Profile of Study Participants

Participant Code	Department	Interview Mode
P01	Procurement	Face-to-face
P02	Warehousing	Face-to-face
P03	Sales	Online
P04	Finance	Face-to-face
P05	Distribution	Face-to-face
P06	Information Technology	Online
P07	Marketing	Face-to-face
P08	Management	Face-to-face
P09	Warehousing	Face-to-face
P10	Sales and Customer Service	Online

Source: Primary Data (2026)

The participants represented the main operational departments involved in inventory-related processes at Pulse Pharmaceuticals. More than one participant represented warehousing and sales related functions, as these departments are highly linked to the availability of stock, customer orders and stock movement. The cross-functional perspectives on inventory management and operational efficiency were captured through the inclusion of procurement, finance, IT, distribution, marketing and management.

4.4 Qualitative Data Analysis Using ATLAS.ti.25

The qualitative data using interviews were analysed using ATLAS.ti.25.

4.4.1 Code Frequency Analysis

Table 4. 2: ATLAS.ti.25 Main Empirical Code Frequencies

Code ID	Identified Interview Theme	Grounded Frequency	Summary of Participants' Views
S-01	Experienced Employees	8	Participants indicated that experienced employees possess practical knowledge that improves inventory control and operational efficiency.
W-01	Poor Demand Forecasting	9	Participants reported that inaccurate demand forecasting contributes to stock-outs and inefficient inventory planning.
O-01	Digital Integration	9	Participants believed that implementing an integrated inventory management system would improve real-time stock visibility
T-01	Supplier Delays and Economic Instability	8	Participants identified supplier delays, foreign currency shortages and economic instability

Source: *Extracted from* ATLAS.ti.25.

Table 4.2 summarises the main empirical themes generated from the interview data using ATLAS.ti.25. The findings show that experienced employees were the main strength, while poor demand forecasting emerged as the major weakness. Digital integration was identified as the greatest opportunity for improving inventory management, whereas supplier delays and economic instability were the main threats affecting operational efficiency.

4.5 Word cloud

Figure 4.1 presents a word cloud generated from the interview transcripts using ATLAS.ti25. The word cloud provides a visual representation of the most frequently

occurring words mentioned by participants regarding inventory management systems and operational efficiency at Pulse Pharmaceuticals. Words appearing in larger font sizes indicate a higher frequency of occurrence within the interview data and therefore represent issues that participants considered important**.**



Fig 4. 1: word cloud

(*Source : Generated from Atlas.ti.25)*

The most prominent words in the word cloud were "inventory", "stock", "suppliers", "forecasting", "system", and "records". This indicates that participants frequently discussed issues relating to inventory control, stock availability and record keeping. The prominence of these terms suggests that inventory management challenges and operational efficiency are strongly influenced by forecasting practices, supplier performance, and the effectiveness of inventory information systems.

4.6 Analysis on Co-occurrence

Table 4. 3:Co-occurrence matrix

Conceptual Code ID	**S-01 Experienced Employees**	**W-01 Poor Demand Forecasting**	**O-01 Digital Integration**	**T-01 Supplier Delays & Economic Instability**
S-01 Experienced Employees	5	2	4	1
W-01 Poor Demand Forecasting	2	6	5	3
O-01 Digital Integration	4	5	7	2
T-01 Supplier Delays & Economic Instability	1	3	2	6

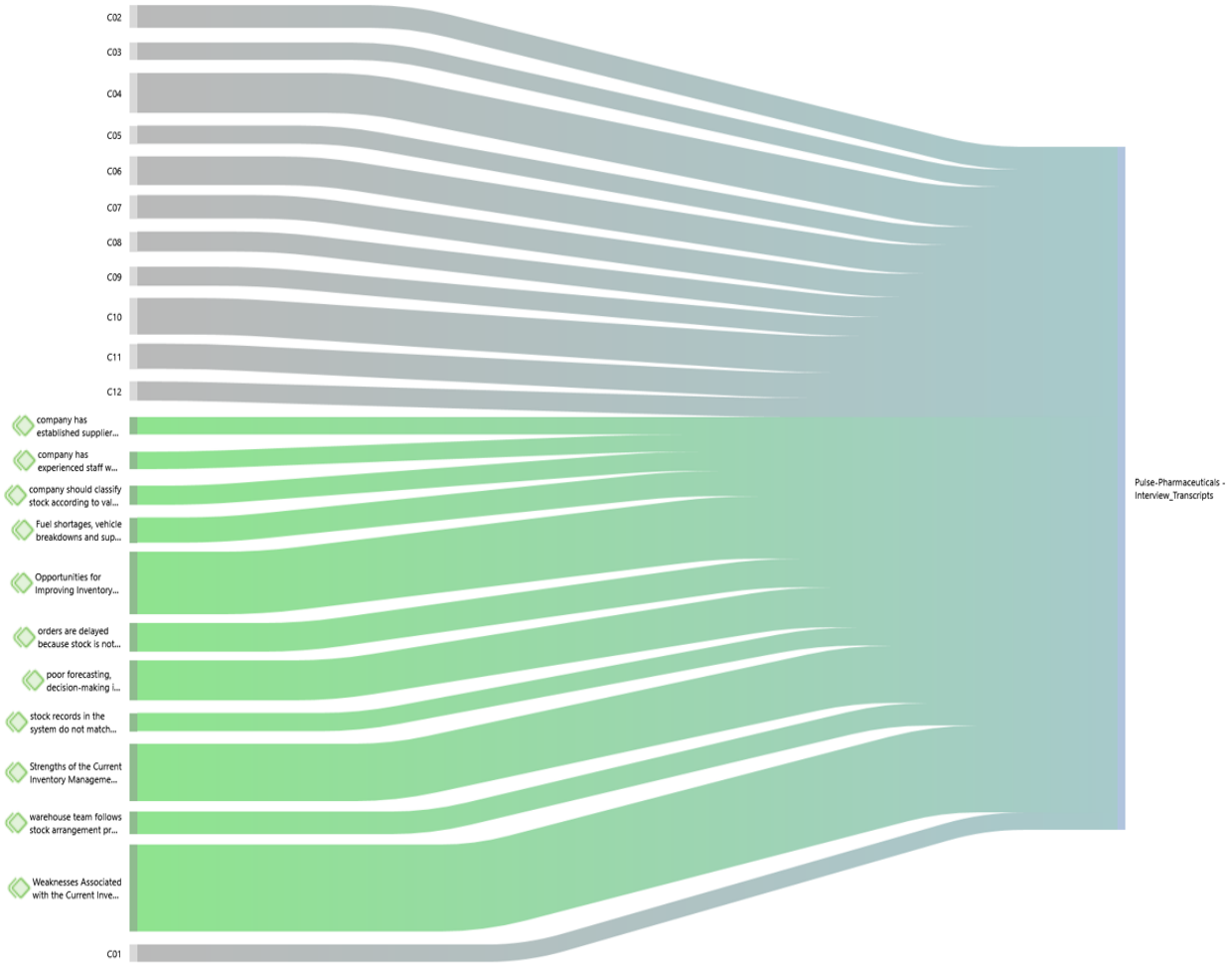
Source: *Extracted from* ATLAS.ti.25.

The interaction matrix indicates that digital integration (O-01) is the most influential factor within the inventory management system, with the highest centrality score of 7. It demonstrates strong linkages with both weaknesses and strengths, particularly improving poor demand forecasting (W-01). Poor demand forecasting emerges as a key operational weakness but is highly responsive to technological improvements. Experienced employees (S-01) moderately support system efficiency but show limited direct influence on external threats such as supplier delays and economic instability (T-01), which remain largely outside organisational control.

4.7 The Sankey visualization

Figure 4.2 presents a Sankey diagram generated from the coded interview data in ATLAS.ti.25. The diagram illustrates the relationships between the identified SWOT themes and their associated codes. The width of the connecting flows represents the

relative strength and frequency of connections between themes and codes within the interview data. Wider flows indicate themes and codes that were mentioned more frequently by participants.



Source: extracted from Atlas.ti.25

Fig 4. 2**:Sankey diagram**

The Sankey diagram shows that the SWOT themes were supported by several interconnected codes. Within the strengths category, established supplier relationships, warehouse control practices, and experienced staff emerged as the most prominent strengths of the current inventory management system. The weaknesses' theme was strongly associated with poor demand forecasting, inaccurate stock records, and weak interdepartmental coordination, indicating areas requiring improvement. Opportunities were linked to digital integration, improved forecasting mechanisms, and staff training

initiatives, while threats were associated with economic instability, supplier delays, and inventory losses arising from system and storage challenges.

4.8 Thematic network diagram

Figure 4.3 presents a network diagram generated using ATLAS.ti.25. The diagram illustrates the relationships between the major themes and sub-themes that emerged from the interview data. The network diagram provides a visual representation of how the identified strengths, weaknesses, opportunities, and threats are connected to inventory management systems and operational efficiency at Pulse Pharmaceuticals.

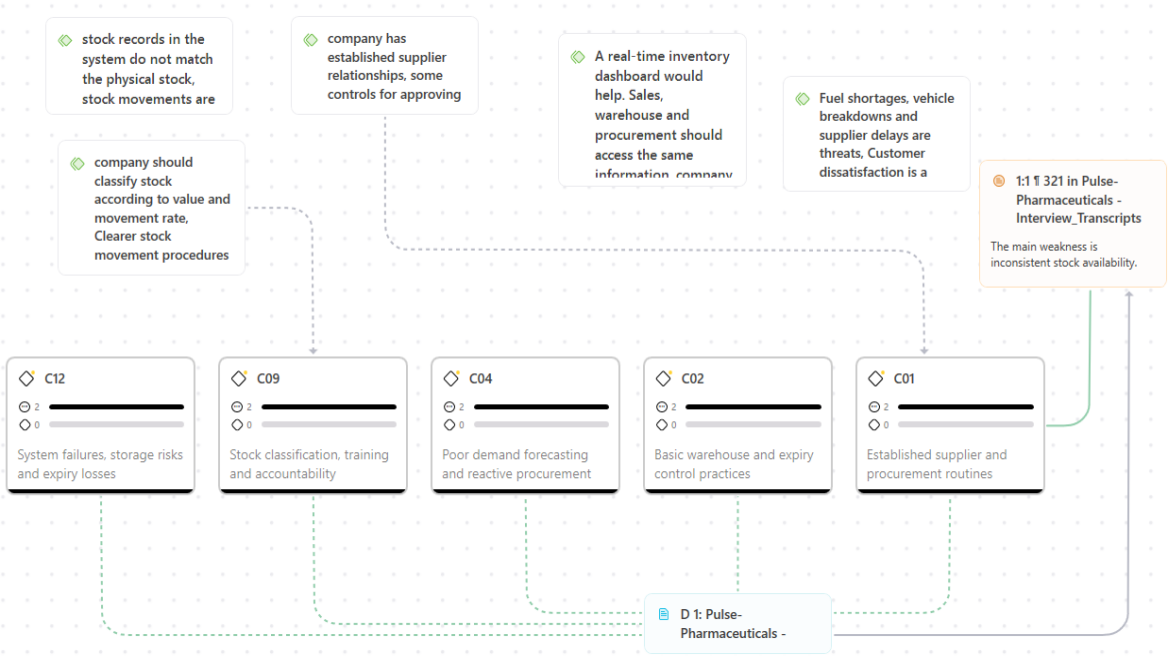


Fig 4. 3: *network diagram*

(*Source : Generated from Atlas.ti.25)*

The network diagram demonstrates that inventory management effectiveness is shaped by a combination of strengths, weaknesses, opportunities, and threats. The visual relationships support the thematic analysis and highlight the areas that require attention to improve operational efficiency at Pulse Pharmaceuticals.

4.9Thematic Analysis of Qualitative Findings

The major themes that were utilised for the analysis that included the strengths of the current inventory management systems, weaknesses associated with the current

inventory management systems, opportunities for improving inventory management practices and threats that may affect the effectiveness of inventory management systems.

4.10 Employees' Perceptions of the Strengths of the Current Inventory Management Systems and Practices at Pulse Pharmaceuticals

The first objective explored employees' perceptions of the strengths of the current inventory management systems and practices at Pulse Pharmaceuticals. Key themes were identified as existing supplier and procurement procedures, simple warehouse and expiry control procedures, and knowledgeable staff with operational experience.

Theme 1: Established supplier and procurement routines

Participants reported that Pulse Pharmaceuticals already had supplier relationships and a rudimentary procurement process in place which assisted in meeting the demand for their products. Participants who were involved in procurement explained that the company was not functioning without any structure, there were set processes in place for determining stock requirements and supplier enquiries. These arrangements facilitated replenishment particularly for products that had been identified as fast-moving products.

"One strength is that the company has established supplier relationships, especially for fast-moving pharmaceutical products."

"The company has some controls for approving purchases, especially for large orders."

These views suggest that Pulse Pharmaceuticals has some internal procurement discipline. Supplier relationships and approval controls enable the company to prevent a totally unplanned purchasing process. They also help to build an inventory management foundation as the company already has identifiable procurement processes that are open to improvement with better forecasting, supplier performance monitoring and financial planning.

Theme 2: Basic warehouse and expiry control practices

A second strength was the presence of basic warehousing practices, including stock arrangement, physical counting and monitoring of near-expiry products. Staff from the

Warehouse department described the arrangement of products to optimise stock locations and dispatch. First expiry first out was also mentioned as one of the important practices to reduce losses due to expiry.

"The warehouse team follows stock arrangement procedures, especially for products with expiry dates."

"Physical stock counting is done periodically, and this helps us identify discrepancies."

The results indicate that Pulse Pharmaceuticals has operational procedures that can aid in accuracy and product safety. Participants went on to acknowledge that there were some inaccuracies in the stock records and slow updates to the system, but that physical stock control and expiry monitoring were not entirely missing.

Theme 3: Experienced staff and customer responsiveness

Participants also saw that experience with employees as a strength. Staff were felt to be aware of how products move, customer expectations, supplier behaviour/expectations and operational pressures. Escalation of customer queries was also seen as a good practice in existing operations.

"The company has experienced staff who understand pharmaceutical operations."

"The company has staff who respond quickly to customer inquiries."

This theme demonstrated that human capital continues to be a strength at Pulse Pharmaceuticals. Workers have an on-the-job understanding that can help with improved decisions for inventory management when integrated into planning systems. In pharmaceutical operations, staff experience is especially significant as workers frequently know what products are sensitive, fast moving, seasonal or are at risk of becoming expirable.

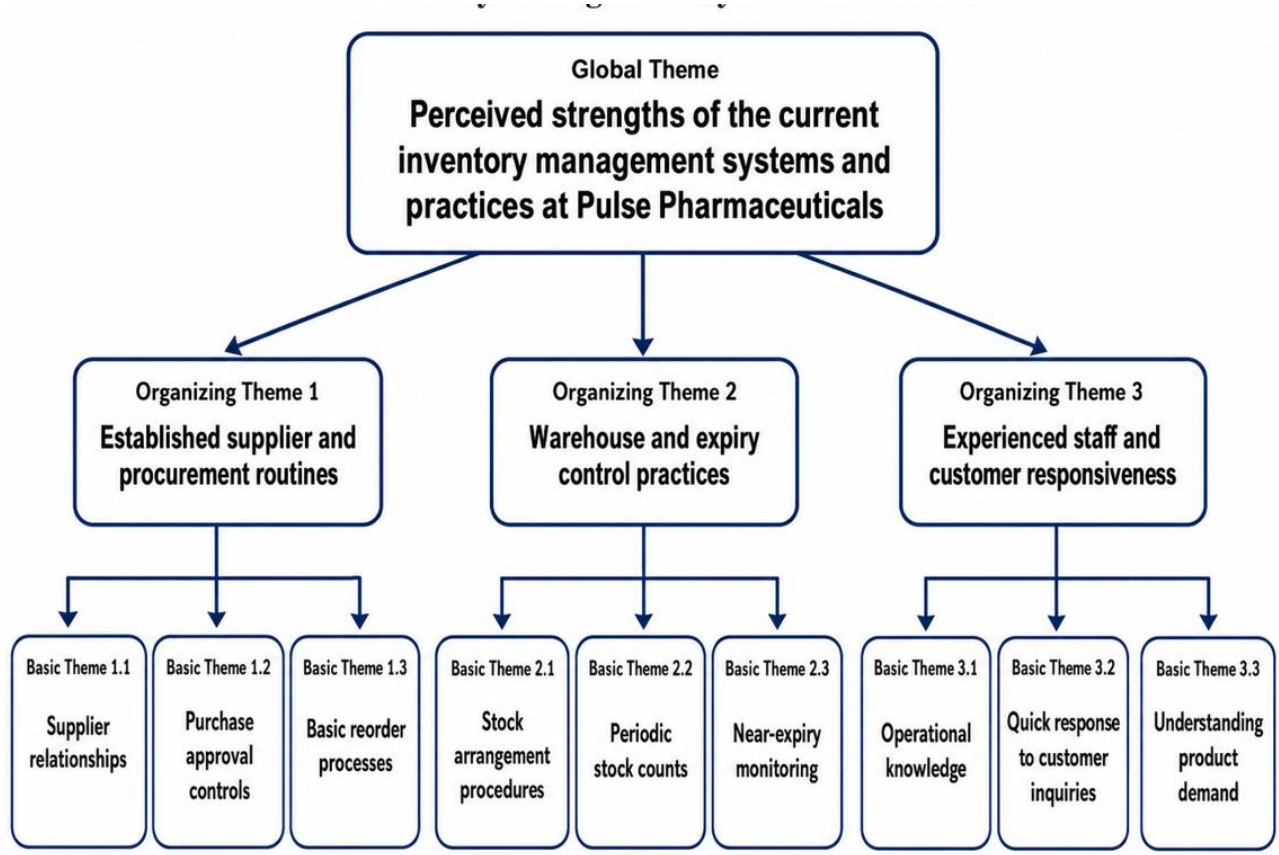


Fig 4. 4: Thematic Network Diagram for strengths

Overall, participants perceived the current inventory management system as having useful strengths, particularly in supplier relationships, warehouse practices and staff experience. These strengths contribute to operational efficiency by supporting replenishment, product availability, faster dispatch and better customer service. However, the findings also indicate that these strengths are not yet fully supported by real-time systems, predictive forecasting and strong cross-departmental integration.

4.11 Weaknesses Associated with the Current Inventory Management Systems and Practices at Pulse Pharmaceuticals

The second objective examined weaknesses associated with current inventory management systems and practices. Two major themes emerged: poor demand forecasting and reactive procurement, inaccurate or delayed stock records.

Theme 1: Poor demand forecasting and reactive procurement

Participants repeatedly identified weak forecasting as one of the most serious weaknesses. Procurement and management participants told us that they made some ordering decisions based on their previous experiences, not on reliable demand data. This resulted in situations where slow moving products would build up and the necessary or fast-moving products would not be available.

"The biggest weakness is poor forecasting. Sometimes we order based on previous experience rather than accurate demand data."

"The major weakness is that decision-making is sometimes reactive. We respond to stock problems after they happen instead of using predictive information to prevent them."

This theme shows that Pulse Pharmaceuticals faces a planning weakness rather than only a storage problem. A lack of good forecasting leads to the inefficiency of the operations since it means more emergency buying, stock outages and over-stocking.

Theme 2: Inaccurate and delayed stock records

Another weakness was the lack of consistency of the system records and physical stock. Warehousing, sales and IT reported that there was sometimes a delay of stock information, duplication of stock information and/or inconsistency in stock information. Occasionally, sales staff may have been able to view products in their system and then warehouse staff later informed them that the quantity was inadequate or that it was out of stock.

"Sometimes the stock records in the system do not match the physical stock."

"Some stock movements are not captured immediately."

This lack has a direct impact on stock management and service provision to customers. Inaccurate system data can cause over- or underordering of items and can lead to promises being made by sales to customers of commodities that are not in stock, while staff in the warehouse must spend time reconciling errors.

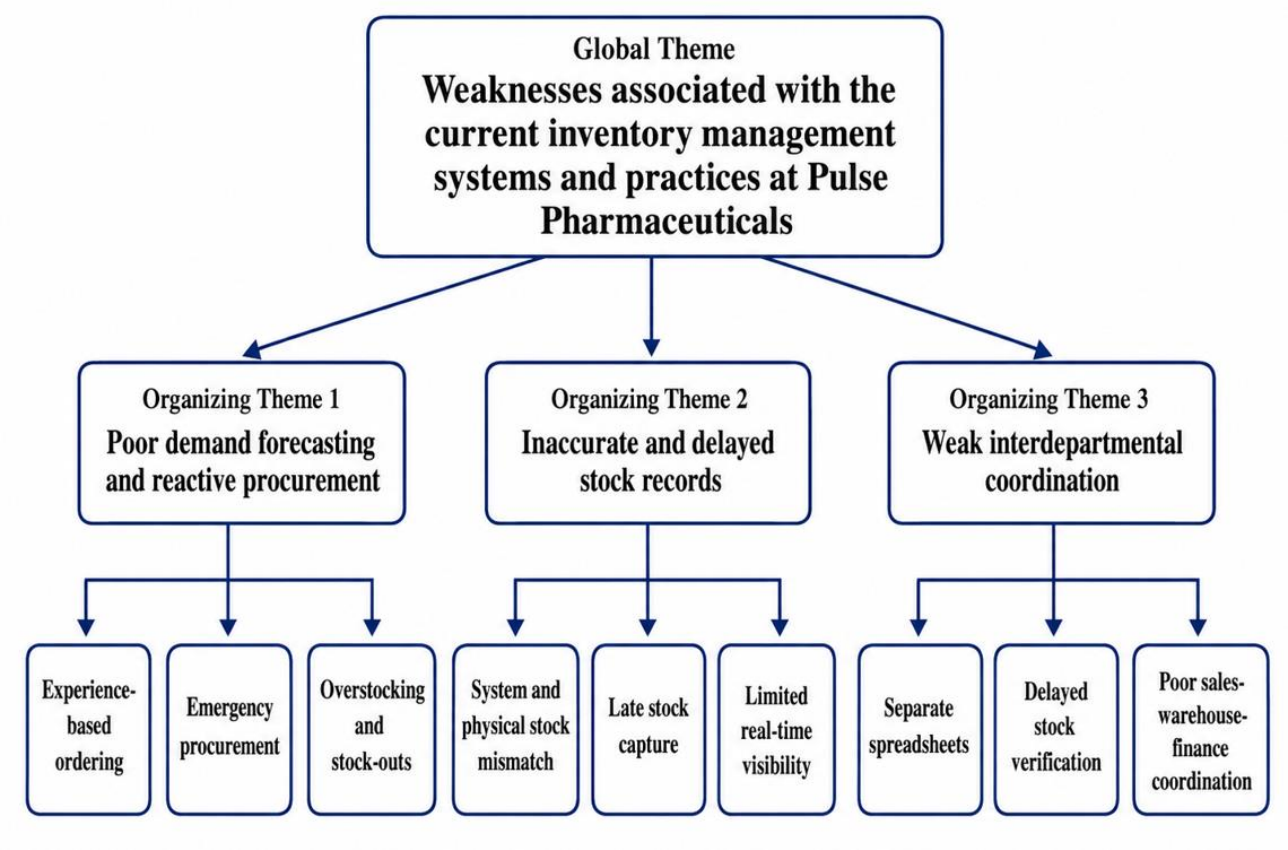


Fig 4. 5: ***Thematic Network Diagram for Weakness***

Overall, the results reflect that the existing inventory management system is lacking in several areas, and that these areas are interrelated. Imbalance in stocks, poor record keeping lowers the quality of decision making. These weaknesses have been identified as impacting the operational efficiency by causing stock-outs, excess inventory, complaints from customers, delayed deliveries and inefficiency of working capital.

4.12 Opportunities for Improving Inventory Management Practices and Enhancing Operational Efficiency at Pulse Pharmaceuticals

The third objective examined opportunities for improving inventory management practices and enhancing operational efficiency. Three key themes stood out: digital integration and real-time visibility, enhanced forecasting thanks to cross-functional planning, and better stock classification and employee capacity building.

Theme 1: Digital integration and real-time stock visibility

Digital integration was considered an important opportunity by participants. There were several employees who indicated that Pulse Pharmaceuticals should consider becoming

more integrated with the inventory system to connect the various areas of the business such as procurement, warehousing, sales, finance and distribution. The goal would be to have all departments working with the same up-to-the-minute (UTC) information.

"A real-time inventory dashboard would help. Sales, warehouse and procurement should access the same information."

"The company can upgrade to a more integrated enterprise system."

This theme is evidence that staff consider technology to be something that they can use practically to enhance the effectiveness of the operations. This real-time visibility would minimize incorrect customer promises, assist procurement, help control the warehouse and aid with financial planning.

Theme 2: Improved forecasting through cross-functional planning

The participants also recommended the forecasting to be more participatory. All the sales, marketing, procurement, finance and warehouse teams have valuable information to offer on demand, stock flow, customer behaviour and supplier reliability. The results indicate, however, that this knowledge is not necessarily used in a systematic planning process.

"Marketing intelligence should be included in forecasting."

"Procurement should also work closely with sales to understand changing demand patterns before placing orders."

This opportunity is so significant because customers' needs, seasonal trends, disease occurrences and competition in the marketplace affect the demand for pharmaceuticals. If a cross functional planning process could be implemented, it would help the company to minimise both stock-outs and excess stock.

Theme 3: Stock classification, training and accountability

The third opportunity was to improve the classification of stocks, the training and accountability of staff. In the group participants have recommended to the company to categorize products based on rate of movement, value of products and criticality. Doing

this will help management identify the important medicines, high value products and running inventory.

"The company should classify stock according to value and movement rate."

"Clearer stock movement procedures and barcode scanning would improve accuracy."

This theme demonstrates that there must be both systems and people for operational efficiency. Although technology plays a major role in helping to solve inventory issues, if a worker is not properly trained or if the procedures are not clearly defined, it won't be a solution. Errors, expiry losses and unnecessary stock build-up could be eliminated through better classification, bar coding, regular reconciliation and accountability.

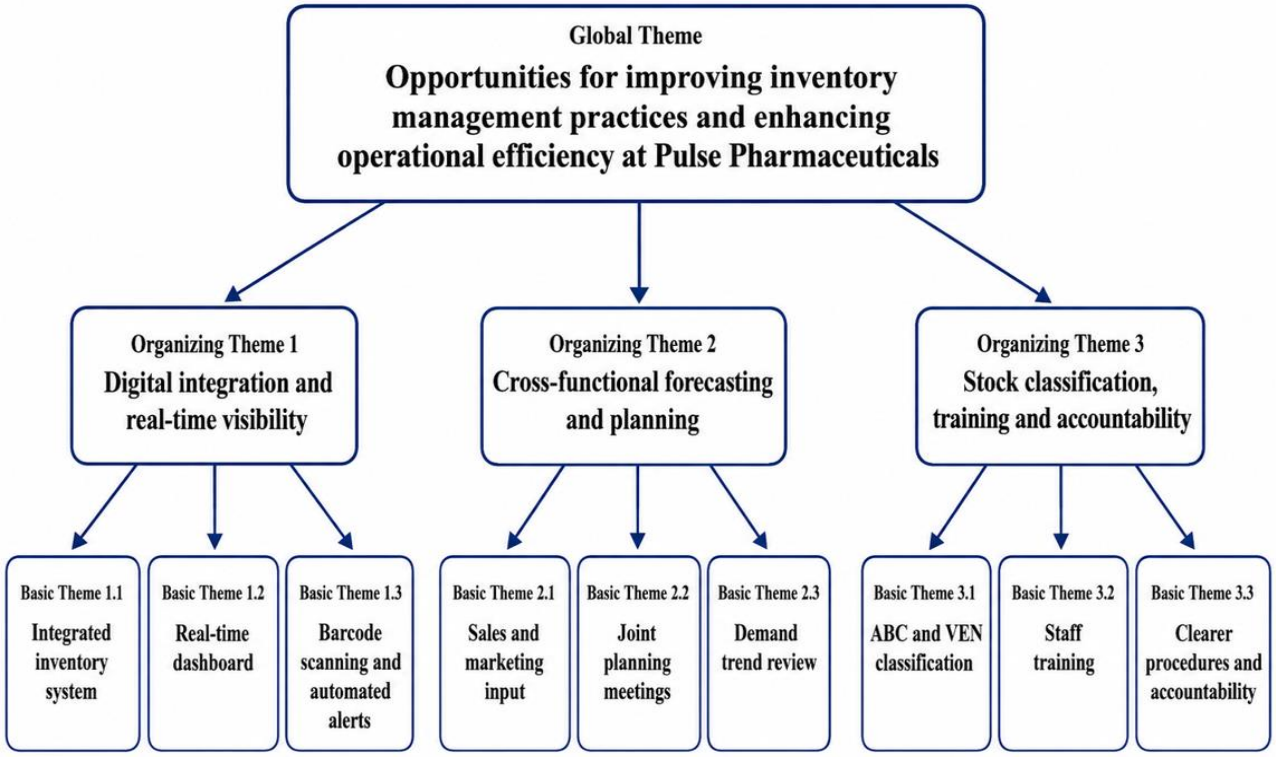


*Fig 4. 6: **Thematic Network Diagram for opportunities***

Overall, participants viewed improvement as achievable if Pulse Pharmaceuticals invests in integrated systems, forecasting, staff training and structured stock classification. These opportunities are directly linked to operational efficiency because they can improve product availability, reduce errors, minimize expiry losses, strengthen cash flow and support faster customer response.

4.13 Threats that May Affect the Effectiveness of Inventory Management Systems and Operational Efficiency at Pulse Pharmaceuticals

The fourth objective investigated threats that may affect the effectiveness of inventory management systems and operational efficiency. Foreign currency and economic instability and supplier and logistics disruptions were the two major themes that emerged.

Theme 1: Foreign currency and economic instability

Foreign currency shortages and exchange rate volatility and price instability were strong identifiers of external threats for participants. Pharmaceutical products and pharmaceutical inputs are frequently imported, therefore the availability of foreign currency has an impact on supplier payments, procuring product and when the product is available.

"Foreign currency shortages are a major threat. Even when we identify products that are needed, payment delays can affect supplier confidence."

"Exchange rate instability is a major threat. Prices change quickly, and this affects procurement budgets and supplier payment planning."

The theme demonstrates Pulse Pharmaceuticals' operation within the environment of macro-economic uncertainty, which would result in the influence of inventory decisions. If internal systems can accurately identify stock needs, but external payment constraints exist, payments may be delayed until stock is needed.

Theme 2: Supplier delays, logistics risks and market competition

Other threats identified by the participants included supplier delays, transport issues and competition. The risks mentioned by distribution participants included fuel shortages and vehicle breakdowns, and supplier lead times were deemed unpredictable. Sales and marketing players pointed out that getting them to switch to other brands would not be a hassle when they could not find them in their stores.

"Fuel shortages, vehicle breakdowns and supplier delays are threats."

"Customer dissatisfaction is a serious threat. If stock-outs continue, customers may lose confidence and move to other suppliers."

The results indicate that inventory management is not restricted to the internal control of inventory. Operational efficiency is affected by supplier reliability as well as transport capacity and competition. Failure to receive or deliver products on time could result in loss of revenue, customer loyalty and competitive position to the company.

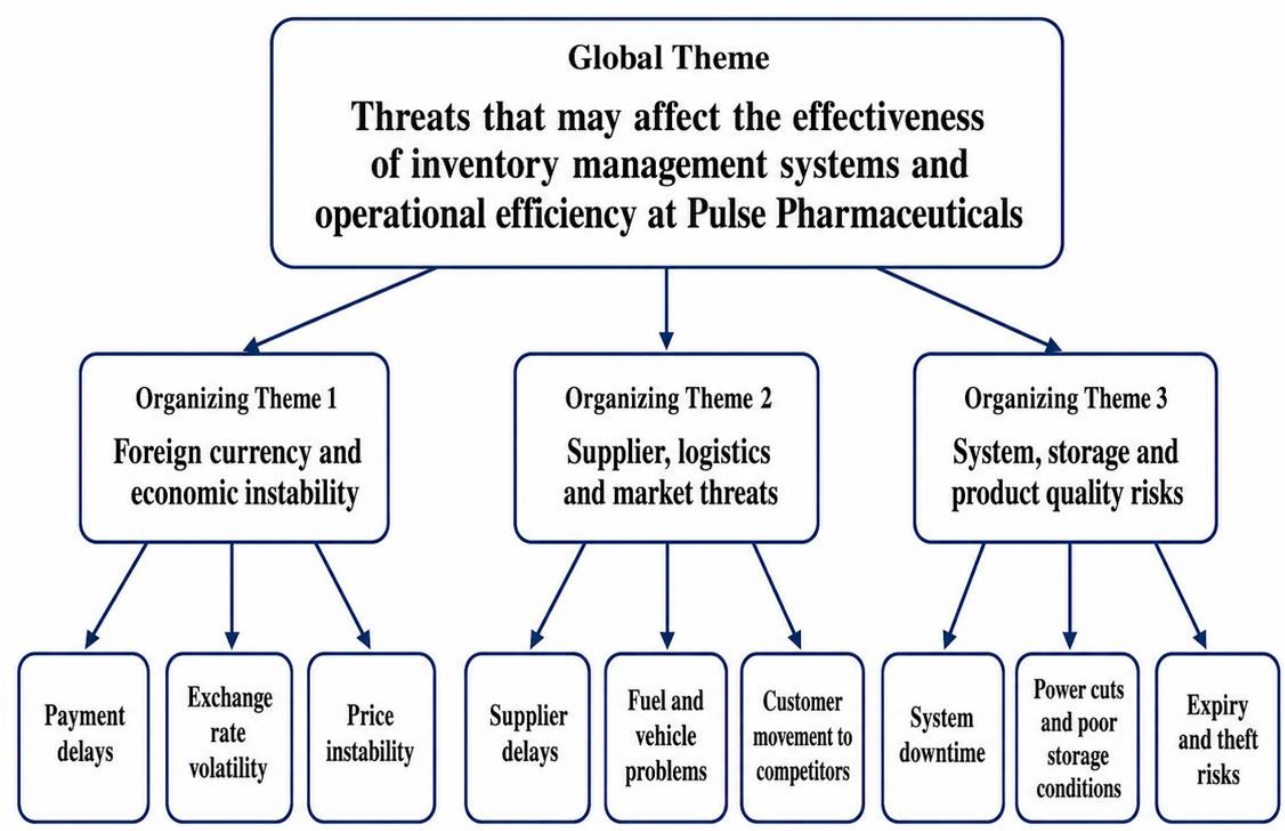


Fig 4 7: ***Thematic Network Diagram for threats***

Overall, the findings show that threats to inventory management at Pulse Pharmaceuticals are both external and internal. External threats include foreign currency shortages, supplier delays, exchange rate volatility and competition. Internal threats include inaccurate data capture. These threats affect operational efficiency by disrupting procurement, delaying deliveries, increasing costs and weakening customer satisfaction.

4.14 Discussion of Findings

The results indicate that employees perceive the current inventory management system at Pulse Pharmaceuticals as having both strengths and challenges that influence operational efficiency. With respect to the first objective, the study established that

strong supplier relationships, effective warehouse and expiry control practices, and experienced employees are key strengths that support inventory availability and customer service. These findings are consistent with George and Elrashid (2023), who observed that effective inventory control and supplier management improve supply chain performance in pharmaceutical organisations.

Regarding the second objective, the study found that poor demand forecasting, inaccurate stock records and weak coordination among departments reduce the effectiveness of inventory management. These findings agree with Chari and Kamninga (2025) and Zuma (2022), who reported that ineffective inventory planning and delayed information systems contribute to stock-outs, excess inventory and reduced organisational performance. The findings suggest that operational efficiency depends not only on inventory systems but also on effective communication and coordination across departments.

The findings relating to the third objective revealed opportunities to improve inventory management through digital integration, collaborative forecasting and continuous employee training. These findings support Shen et al. (2024), who concluded that digital inventory technologies and integrated planning improve inventory accuracy and decision-making. The study therefore highlights technology and employee capacity development as important drivers of operational improvement.

Finally, the study established that external economic conditions, supplier delays, logistics disruptions, and internal system failures pose significant threats to inventory management. These findings are consistent with Chari and Kamninga (2025), who found that financial and supply chain challenges continue to affect medicine availability in Zimbabwe. Overall, the discussion indicates that while Pulse Pharmaceuticals possesses important organisational strengths, improving forecasting, technological integration, interdepartmental coordination, and risk management is essential for achieving sustainable operational efficiency.

4.15 Chapter Summary

This chapter presented and discussed findings from 10 qualitative interviews. The results indicated that Pulse Pharmaceuticals have competencies on suppliers, warehouse and experienced staff. But deficiencies in forecasting, stock and coordination were

found. Opportunities are digital integration, cross-functional planning and employee training, and threats are foreign currency shortages, delays from the suppliers, failure of systems and expiry risks.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusions and recommendations of the study. It concludes the reason, method and key findings from the study about the difficulties employees faced in inventory management and how efficient the operational workflow was at Pulse Pharmaceuticals. The chapter also offers practical suggestions for enhancing inventory practices and other research areas that warrant further academic study.

5.2 Summary of Findings

The first objective explored employees' perceptions of the strengths of the current inventory management systems and practices. The results indicated that Pulse Pharmaceuticals has buyer-supplier relationships, simplified procurement procedures and purchase approval mechanisms. Other strengths highlighted by the employees included stock arrangement and periodic stock count and expiry monitoring practices in the warehouse. Further, the presence of experienced staff and rapid response times from customers were also considered assets to aid product availability, dispatching and customer service.

The second objective identified weaknesses in current inventory management systems and practices. The results showed low demand forecasting, ordering based on experience and lack of experience in ordering. Inaccurate stock records and delayed stock capture were also reported and mismatches between stock records and physical stock. Another significant area of weakness related to weak coordination between sales, procurement, warehouse, finance and distribution.

The third objective examined opportunities for improving inventory management and operational efficiency. Key improvement opportunities identified by participants included digital integration, real-time inventory dashboards, and barcode scanning and automated reorder alerts. It was also recommended to have cross functional forecasting

in areas of sales, marketing, procurement, finance and warehousing. Participants also recommended ABC and VEN stock classification, staff training, improved procedures and increased accountability for stocks.

The fourth objective explored threats to the effectiveness of inventory management. The results indicated that shortages of foreign currency, exchange rate fluctuations, price fluctuations, supplier delays, transportation issues and customer migration to competitors pose challenges to operational efficiency.

5.3 Conclusions

The study concludes that although Pulse Pharmaceuticals has established important strengths within its inventory management system, there are significant challenges that continue to affect operational efficiency. The findings indicate that strong supplier relationships, effective warehouse and expiry control practices, and experienced employees provide a solid foundation for maintaining inventory availability and supporting organisational performance. These strengths demonstrate that the organisation has developed basic inventory management capabilities that contribute positively to its operations.

However, the study further concludes that weaknesses in demand forecasting, inaccurate stock records and weak coordination among departments reduce the effectiveness of the existing inventory management system. These shortcomings limit the organisation's ability to maintain optimal inventory levels, resulting in stock-outs, overstocking, and inefficient use of organisational resources. Consequently, operational efficiency cannot be fully achieved unless these internal weaknesses are addressed.

The study also concludes that Pulse Pharmaceuticals has significant opportunities to improve its inventory management practices through digital integration, collaborative forecasting, staff training, and improved inventory classification. Implementing these improvement strategies would enhance inventory accuracy, strengthen decision-making and improve coordination across departments, thereby increasing operational efficiency and organisational competitiveness.

Finally, the study concludes that external economic conditions, supplier delays, logistics disruptions, system failures, and inventory losses remain important threats to effective inventory management. These risks have the potential to interrupt inventory availability, increase operational costs and reduce service delivery if they are not

managed effectively. Therefore, sustainable operational efficiency depends on the organisation's ability to strengthen its internal inventory management practices while responding proactively to external environmental challenges.

Overall, the study concludes that improving operational efficiency at Pulse Pharmaceuticals requires a balanced approach that builds on existing strengths, addresses operational weaknesses, capitalises on available opportunities and effectively manages potential threats. Such an approach will enable the organisation to strengthen inventory performance and support long-term organisational sustainability.

5.4 Recommendations

1. Implement an integrated real-time inventory management system

Pulse Pharmaceuticals need to have a system in place that integrates their inventory management, from procurement to distribution, sales to finance and management. The system should give real-time visibility of stocks, alert for reordering, tracking expiry dates and record the stock movement accurately. This would have the effect of reducing mismatches between system and physical stock, enhance decision making and minimise delays in the fulfilment of customer orders.

2. Strengthen demand forecasting and cross-functional inventory planning

The company should have a formal forecasting system which includes a cross-functional group of procurement, sales, marketing, warehouse and finance. The monthly planning meeting should be conducted to review the trend in sales, customer demand, supplier lead time, stock movement and available working capital. This would cut down on reactive procurement, cut down on overstocking and make drugs more available which are critical and moving at high speed.

3. Apply ABC and VEN inventory classification

The classification of inventory should be made with respect to the product value, the movement rate, and the clinical value. ABC analysis would be useful in identifying medicines and products of high value that need high level financial control, whereas VEN analysis would be useful for prioritising vital and essential medicines. These techniques would be of help in making better procurement decisions and in preventing essential medicines out of stock and slow-moving stock in the pipeline.

4. Improve staff training, accountability and stock control procedures

The company should educate staff on how to keep track of inventory, expiry dates, stock rotation, barcode scanners, demand reporting, and exception reporting. Clear responsibility must be assigned for capture, verification, reconciliation and reporting of stocks. It is also important to carry out internal audits on a regular basis to identify discrepancies as soon as possible. This will help to ensure that data will be more accurate, waste reduction and operational discipline.

Overall, implementing these recommendations would enable Pulse Pharmaceuticals to strengthen its inventory management system, improve operational efficiency and achieve sustainable organisational performance

5.5 Areas for Further Studies

Future studies could examine the effect of digital inventory management systems on financial performance in Zimbabwean pharmaceutical companies. A quantitative study of this type could involve measuring the consequence of the introduction of digital on the reduction of stock-outs, holding costs and losses due to expiry.

A comparative study of inventory management within a few pharmaceutical companies in Zimbabwe also could be conducted. A comparative study would help to identify challenges, best practices and strategies for improving the medicine availability and operational efficiency in unstable economic environment at the sector level.

A longitudinal study could also be conducted at Pulse Pharmaceuticals to track inventory performance over time as the recommended strategies are implemented. Such a study could measure changes in stock-out rates, inventory accuracy, expiry losses, holding costs and order fulfilment before and after the implementation of digital inventory systems, improved demand forecasting and other recommended practices. This would provide evidence on the long-term effectiveness of the proposed interventions and their contribution to operational efficiency.

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APPENDIX 1: Interview guide

My name is B223470B, a student in fourth year at Bindura University of Science Education. I am carrying out research on 'Employee Perceptions on Inventory Management Challenges and Operational Efficiency at Pulse Pharmaceuticals.' The study is for the fulfilment of my degree of Bachelor of Accountancy. I am required to carry out a research and interviews. All your responses are kept with confidentiality and will be used for this research purposes only.

Questions

1. What strengths do employees perceive in the current inventory management systems and practices at Pulse Pharmaceuticals?
2. What weaknesses and challenges do employees perceive in the current inventory management systems and practices?
3. What opportunities exist for improving inventory management practices and operational efficiency at Pulse Pharmaceuticals?
4. What threats may affect the effectiveness of inventory management systems and operational efficiency at Pulse Pharmaceuticals?

APPENDIX 2: RESEARCH APPROVAL LETTER

BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF COMMERCE

CHAIRPERSON, ACCOUNTANCY DEPARTMENT

Private Bag 1020
BINDURA, Zimbabwe
Tel: 0271 – 7531-6, 7615
Mr O. Manyani:0772357174

22 May 2026

RE: REQUEST FOR DATA COLLECTION

PERMISSION TO CARRY OUT RESERCH- TRISH T MWALE B223931B

The department of Accountancy at Bindura University of Science Education we acknowledge receipt for **BRIAN CHIMENYA B223470B** to carry out academic research in fulfilment of his studies. His research topic is **"EMPLOYEE PERCEPTIONS ON INVENTORY MANAGEMENT CHALLENGES AND OPERATIONAL EFFICIENCY AT PULSE PHARMACEUTICALS "**

We undertake to assist him in every way possible. Through our assistance all information provided shall be used solely for purposes of academic research. Should you require any clarification please do not hesitate to contact the undersigned?

Yours faithfully

BINDURA UNIVERSITY OF SCIENCE EDUCATION
DEPARTMENT OF ACCOUNTANCY
CHAIRPERSON
22 MAY 2026
FACULTY OF COMMERCE
PRIVATE BAG 1020, BINDURA, ZIMBABWE

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O. Manyani (Mr), Chairperson

Pulse Pharmaceuticals
22 MAY 2026