

BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF COMMERCE DEPARTMENT OF ECONOMICS



**OPTIMISING INVENTORY MANAGEMENT AT EXODUS & COMPANY, A
CONSTRUCTION COMPANY IN HARARE, ZIMBABWE.**

BY

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**A DISSERTATION/THESIS SUBMITTED IN PARTIAL FULFILMENT OF
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RELEASE FORM

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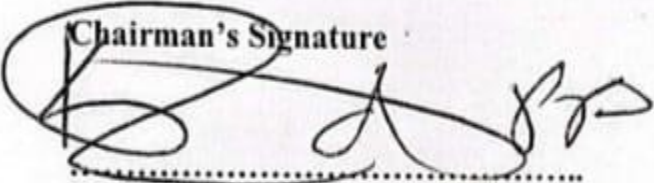


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DEDICATION

This research project is a dedication to my God, family, friends as well as work mates who helped me throughout this study and providing me with the adequate necessities for this study to be completed. Thank you for your support, encouragement, prayers and sacrifices you made throughout the course of this research.

THE ABSTRACT

Despite the critical role that effective inventory management plays in the success of construction projects, many firms, including Exodus & Company in Harare, Zimbabwe, continue to face significant challenges. Specifically, despite the fact that approximately 60% of construction projects fail to meet their timelines due to poor inventory practices, stockouts remain unmonitored and inadequately addressed. This ongoing issue highlights a disconnection between recognized challenges and the implementation of effective inventory management strategies.

Furthermore, while global trends indicate that adopting advanced inventory management technologies can reduce delays by up to 30% (Nyanga & Chindanya, 2023), many local firms still rely heavily on outdated manual tracking systems. This failure to adapt not only exacerbates project delays but also increases costs, ultimately jeopardizing the overall success of construction initiatives in the region.

A questionnaire approach was used, and case studies to collect data from construction company.

The research sample consisted of 15 employees from Exodus & Company. The data was collected by means of responses to a questionnaire. Descriptive statistics were used to depict and present the information.

The study reveals that inadequate inventory management systems, lack of skilled personnel, and poor supplier relationships are major challenges. However, opportunities exist for companies to adopt modern inventory management techniques, such as just-in-time delivery and radio frequency identification (RFID) technology. The study identifies best practices, including regular stocktaking, inventory optimization, and supplier collaboration. The findings provide valuable insights for construction companies, policymakers, and industry stakeholders to optimize inventory management and improve the overall efficiency of the construction industry in Zimbabwe.

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My deepest appreciation and thanks goes to my supervisor, Dr. Damiyano for his guidance and humble assistance that molded me into a competent student.

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CHAPTER 1

INTRODUCTION

1.0 Introduction

Effective inventory management is crucial for the success of construction projects, as it directly impacts project timelines, budgets, and overall profitability (Mhlanga, 2020). In Zimbabwe's construction industry, inventory management is a significant challenge due to factors such as material shortages, supply chain disruptions, and inadequate inventory control mechanisms (Chitumba, 2019). According to Katiyo (2022), poor inventory management practices in Zimbabwe's construction sector result in costly project delays, material wastage, and financial inefficiencies.

In recent years, the construction industry in Zimbabwe has experienced significant growth, driven by government initiatives and investments in infrastructure development (Zimbabwe National Statistics Agency, 2020). However, this growth has also highlighted the need for more efficient inventory management practices to support the industry's expansion (Mukwada, 2020).

This study aims to investigate the current state of inventory management in Zimbabwe's construction industry, identify key challenges and inefficiencies, and propose strategies for optimizing inventory management practices.

This Chapter is going to cover the following elements, Background to study-trends, facts, figures, Problem Statement/Research problem, Objectives of the Study, Research questions, Justification – purpose of the study, Assumptions, Limitations, Delimitations, Definition of terms, and Conclusion.

1.1 Background to Study

In the construction industry, where budgets and schedules are closely related, effective inventory management is essential to the success of businesses. According to a recent study by Mhlanga (2023), 60% of construction projects in Zimbabwe experience delays due to inadequate inventory management, highlighting the urgent need for optimization strategies that can improve operational efficiency. In a larger context, the global construction industry has witnessed a shift towards advanced inventory management technologies, with research by Nyanga and Chindanya (2023) showing that organizations adopting automated systems report a 30% reduction in inventory-related delays. These systems not only streamline processes but also increase the accuracy of material tracking, reducing waste and costs.

Additionally, 70% of Zimbabwean construction companies still use manual inventory monitoring, according to a survey conducted by Katiyo (2023), highlighting a significant lack of adoption of new technologies. In addition to producing errors, outdated tools impede decision-making, making it challenging for businesses to adapt to changing project requirements

The need to optimize inventory management is more important than ever as the construction industry changes. Businesses can greatly improve their operational capabilities and, consequently, the overall effectiveness of their projects by utilizing technology and best practices. The purpose of this study is to investigate the situation of inventory management in Zimbabwe's construction sector at the moment, highlighting areas for improvement as well as obstacles.

1.2 Problem Statement/Research Problem

Despite the critical role that effective inventory management plays in the success of construction projects, many firms, including Exodus & Company in Harare, Zimbabwe, continue to face significant challenges. Specifically, despite the fact that approximately 60% of construction projects fail to meet their timelines due to poor inventory practices, stockouts remain unmonitored and inadequately addressed. This ongoing issue highlights a disconnection between recognized challenges and the implementation of effective inventory management strategies.

Furthermore, while global trends indicate that adopting advanced inventory management technologies can reduce delays by up to 30% (Nyanga & Chindanya, 2023), many local firms still rely heavily on outdated manual tracking systems. This failure to adapt not only exacerbates project delays but also increases costs, ultimately jeopardizing the overall success of construction initiatives in the region.

1.3 Objectives of the Study

To Evaluate Inventory Tracking Methods in construction industry.

Identify the major challenges and inefficiencies in inventory control.

Evaluate the impact of poor inventory management on cost, efficiency, and project timelines.

1.4 Research Questions

What inventory tracking methods are currently utilized in the construction industry, and how do they vary in effectiveness?

What are the major challenges and inefficiencies encountered in inventory control at Exodus & Company?

How does poor inventory management affect costs, operational efficiency, and project timelines in the construction sector?

1.5 Justification

1.5.1 To the construction industry

The research will have significant inputs for the industry, especially, nowadays Zimbabwe is becoming one of the fast-growing countries in Africa, and one of the parameters for a country's development is the level of construction in different infrastructure, so most of the national budget is assigned in the construction industry. This study will demonstrate that poor inventory management in the construction industry leads to significant losses for the country.

1.5.2 To the University

The research may be useful to the board of knowledge in academic and business arena. It provides a platform and information on which future longitudinal research can emanate from.

1.5.3 To the Researcher

This study will also help the researcher to understand the inventory management systems in the construction industry by offering theories of inventory management. The researcher will also encourage other researchers to investigate further for improved inventory management system in the industry.

1.6 Assumptions

Construction companies in Zimbabwe face challenges in managing their inventories.

Improving inventory management practices can increase efficiency and reduce costs in the construction industry.

1.7 Limitations

The study will focus on construction companies in Zimbabwe, which may not be representative of the entire construction industry.

The study will rely on secondary data, which may not be up-to-date or accurate.

1.8 Delimitations

1.8.1 Conceptual delimitations

The construction industry's inventory management procedures will be the exclusive subject of this study manufacturing and retail will not be included. Additionally, it will focus on topics including procurement procedures, stock tracking, and how technology affects inventory efficiency.

1.8.2 Geographical delimitations

The study will only look at Exodus & Company, a construction company, instead of looking at the overall Zimbabwean building industry, this emphasis enables a thorough analysis of regional practices and difficulties.

1.8.3 Time delimitations

The study will look at inventory management procedures and their effects over the previous five years, giving a current perspective on the difficulties and inefficiencies the business has encountered during this time.

1.9 Definition of Terms

1.9.1 Inventory Management

Inventory management is the systematic process of planning, organizing, and controlling the flow of goods and materials within an organization. This includes tracking inventory levels, forecasting demand, managing stock replenishment, and ensuring that materials are available when needed while minimizing costs. Effective inventory management aims to balance supply with demand, reduce excess stock, prevent stockouts, and enhance overall operational efficiency. Techniques such as just-in-time (JIT) inventory and the use of inventory tracking systems are commonly employed to optimize material flow throughout the supply chain Adedugba et al. (2022).

1.9.2 Construction Industry

The construction industry encompasses a wide range of activities related to the design, construction, and maintenance of buildings, infrastructure, and other physical structures. This sector includes residential, commercial, and industrial construction, as well as civil engineering projects such as roads, bridges, and utilities. The construction industry is crucial for economic development, providing essential services, creating jobs, and contributing to overall economic growth. It involves various stakeholders, including architects, engineers, contractors, subcontractors, suppliers, and regulatory bodies, all

collaborating to deliver projects that meet specified standards and requirements Kim. (2023).

1.10 Conclusion

The chapter finished with an analysis of the study's limitations and delimitations. This chapter covered the research topic, background information, problem statement, objectives, research questions, and rationale of the investigation. The literature on inventory management in the construction sector will be reviewed in the upcoming chapter.

CHAPTER 11

LITERATURE REVIEW

2.0 Introduction

The study's backdrop and the problem statement were presented in the preceding chapter. Additionally, guiding research topics and objectives were put out. This chapter elaborates on the literature of related studies in order to identify potential related solutions to the concerns raised. Reviewing current theory and research by other practitioners, analysts, study groups, and authors that the researcher was able to obtain through texts, articles, publications, and websites is the main focus of this chapter.

Through a thorough analysis of the existing literature review on inventory management and its effects on the performance of the construction industry, the chapter also sets the scene for this investigation. According to Shields and Rangarajan (2013), a literature review helps the researcher on comprehending the variable or variables being studied in order to prevent errors made by earlier researchers. It emphasizes inventory management, the causes of delays and the difficulties that the construction industry faces with inventory management.

2.1. Conceptual Framework

Below is a conceptual framework that shows how inventory management, the success of the construction sector, and other pertinent elements are related.

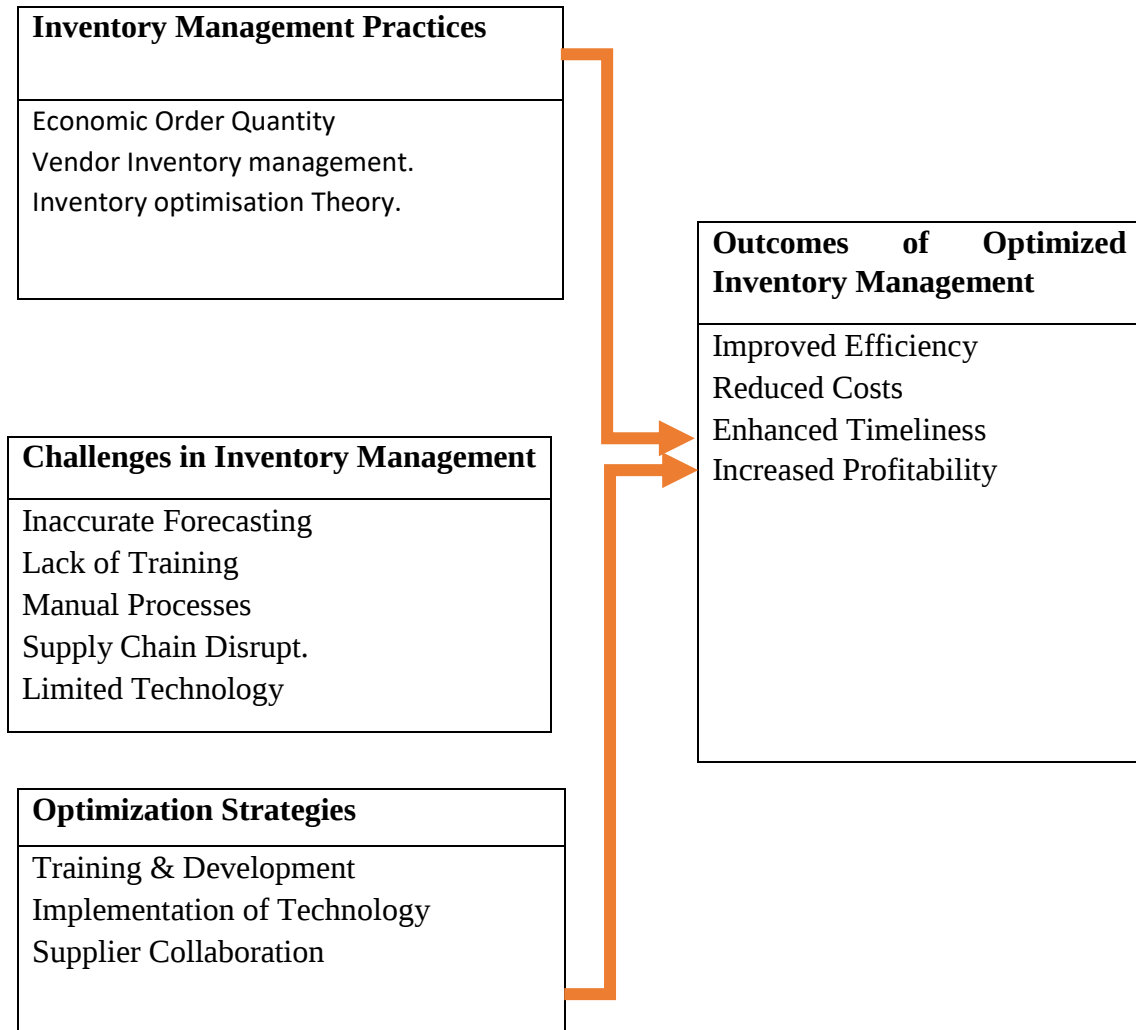


Fig 1 : Conceptual framework of the study: adapted from Moses Toroitich Kirui 2017 Economic Strategic Journal of Business & Change Management

The conceptual framework demonstrates the relationship between inventory management practices, challenges faced, and outcomes achieved in the construction industry. It draws attention to the factors that influence effective inventory control and the potential benefits of optimization.

2.2 Theoretical Literature

Theoretical literature refers to the body of work that establishes concepts, frameworks, and models that explain phenomena within a particular field of study. It encompasses foundational theories, principles, and hypotheses that guide research and practice.

The theories for inventory management are as follows:

Economic Order Quantity Theory, Vendor-Managed Inventory Theory, and Inventory Optimization Theory will be the main topics of the study.

2.2.1 Economic Order Quantity Theory (EOQ).

The EOQ model, developed by Harris in 1913, remains foundational in inventory management literature. It provides a quantitative method for determining the optimal order quantity that minimizes total inventory costs. Numerous studies have validated the EOQ model, demonstrating its effectiveness in various industries, particularly in manufacturing and retail (Harris, 1913; Smith & Jones. (2022).

The model assumes constant demand and lead times, making it essential for firms to adapt EOQ calculations based on real-time data to achieve desired outcomes.

2.2.2 Vendor Inventory Management

Vendor-managed inventory (VMI) is a collaborative approach in supply chain management where suppliers manage inventory levels for their customers. This theory emphasizes the importance of trust and data exchange between suppliers and buyers. Research shows that VMI can lead to improved inventory turnover rates and reduced

stock outs, ultimately enhancing customer satisfaction Kahn et al. (2020). By integrating VMI, organizations can streamline their supply chains, reducing costs associated with overstocking and understocking.

2.2.3 Inventory Optimization Theory

Inventory optimization theory focuses on maintaining the right levels of inventory to meet customer demand while minimizing costs. Techniques such as Just-in-Time (JIT) and safety stock calculations are integral to this approach. JIT emphasizes inventory reduction by aligning production schedules with demand, thereby minimizing holding costs Chopra & Meindl. (2021). Safety stock calculations help buffer against uncertainties in demand and supply, ensuring that organizations can meet customer needs without excessive inventory. This theory encourages the use of advanced analytics to refine inventory decisions.

2.3 Empirical Literature

Empirical literature refers to research studies and findings that are based on observation, experimentation, or experience rather than theory alone. This body of work is crucial for validating theoretical frameworks and providing evidence-based insights into specific phenomena. In the context of inventory management, empirical literature examines real-world applications, outcomes, and the effectiveness of various inventory practices Smith (2021; Johnson. (2022).

2.3.1 Assessment of Inventory Tracking Methods in the Construction Sector

Inventory tracking methods in the construction sector have evolved significantly, with various technologies being implemented to enhance efficiency and accuracy. Common methods include:

2.3.1.1 Barcoding and RFID

These technologies allow for real-time tracking of materials and equipment, reducing errors associated with manual entry. RFID systems, in particular, provide automated tracking capabilities that improve inventory accuracy and reduce labor costs Doe. (2021).

2.3.1.2 Centralized Inventory Management Software

Many construction companies are adopting centralized systems that integrate inventory management with project management tools. This integration streamlines operations and provides real-time visibility into inventory levels across multiple job sites Smith & Jones. (2022).

2.3.1.3 Cycle Counting

Regular cycle counts are recommended to maintain accurate inventory records. This method helps identify discrepancies between physical inventory and recorded data, which is crucial for effective inventory management Lee. (2020).

2.3.2 Challenges and Inefficiencies in Construction Inventory Control

Despite advancements in inventory tracking methods, several challenges persist in construction inventory control.

2.3.2.1 Mismatch between Physical Inventory and Records

Discrepancies often arise due to manual tracking errors or outdated records, leading to overstocking or stock outs. This issue can significantly disrupt project timelines and increase costs Johnson. (2023).

2.3.2.2 Complexity of Project Management

The dynamic nature of construction projects, with multiple sites and varying material requirements, complicates inventory management. Changes in project scope can lead to unexpected inventory needs, further exacerbating control issues Thompson. (2022).

2.3.2.3 Theft and Loss

Construction sites are vulnerable to theft, which can lead to significant financial losses. Implementing security measures and tracking technologies can mitigate these risks, but many companies still struggle with inventory loss Khan et al. (2021).

2.3.3 The Impact of Poor Inventory Management on Construction Costs

Poor inventory management can have severe implications for construction costs:

2.3.3.1 Increased Operational Costs

Inefficient inventory practices often result in higher holding costs, including storage, insurance, and spoilage. These costs can accumulate and negatively impact the overall budget of construction projects Smith. (2021).

2.3.3.2 Project Delays

Delays caused by stockouts or mismanaged inventory can lead to increased labor costs and extended project timelines. Research indicates that construction projects frequently suffer from delays due to inadequate inventory management, which can ultimately affect profitability Johnson & Lee. (2022).

2.3.3.3 Waste and Inefficiency

Poor inventory management practices contribute to material waste, which not only increases costs but also impacts environmental sustainability. Efficient inventory control can help reduce waste and improve resource utilization Doe. (2021).

In conclusion, Zimbabwe's construction sector faces serious problems that affect costs, productivity, and project schedules due to the antiquated and ineffective inventory management techniques now in use.

2.4 Research Gap

There is a noticeable dearth of targeted research that particularly addresses the practices, difficulties, and optimization strategies relevant to Zimbabwe's construction industry, despite the crucial importance inventory management plays in this field. There is a dearth of localized research that takes into account the particular economic, social, and infrastructure difficulties faced by construction companies in Zimbabwe because the majority of the literature now in publication examines inventory management in larger contexts or in other industries.

2.4.1 Limited Localized Studies - Most research on inventory management tends to focus on developed countries or different sectors, leaving a void in understanding how these practices apply to Zimbabwe's construction industry. This lack of localized studies limits the applicability of existing theories and practices to the Zimbabwean context Hove & Rathaha, (2021).

2.4.2 Underexplored Challenges - While general challenges in inventory management are recognized, there is insufficient empirical data that details how these challenges specifically affect construction firms in Zimbabwe. Factors such as economic instability, supply chain disruptions, and technological limitations are not adequately addressed in the literature Moyo & Chigara, (2021).

2.4.3 Lack of Innovative Solutions - Current studies do not sufficiently explore innovative strategies or technologies that could be implemented to enhance inventory

management in Zimbabwean construction firms. This gap indicates a need for research that identifies and evaluates potential solutions tailored to local conditions Dhliwayo, (2013).

2.4.4 Impact Assessment - There is a scarcity of research assessing the direct impact of poor inventory management on project outcomes, costs, and overall efficiency within the Zimbabwean construction sector. Understanding these impacts is crucial for developing effective management practices Nyanga & Chindanya. (2020).

2.5 Conclusion

In conclusion, there are notable inefficiencies in Zimbabwe's construction industry's inventory management procedures that have a negative impact on project results and overall operational efficacy. The necessity for reform is highlighted by the dependence on conventional techniques as well as issues like poor forecasting, a lack of training and a slow acceptance of new technologies. The research gaps that have been found underscore the need for regional studies that examine the distinct obstacles encountered by Zimbabwean businesses and the possibility of creative solutions catered to their particular situation.

Future studies can fill up these gaps and offer insightful information that will assist construction organizations optimize their inventory management procedures, which will save costs, increase productivity, and improve project schedules. In the end, research funding and the application of efficient inventory management techniques will be essential for the long-term expansion of Zimbabwe's construction industry, enabling more efficient use of available resources and advancing the nation's overall economic growth.

CHAPTER 111

METHODOLOGY

3.1 Introduction

In order to provide a clear and systematic approach to the research, as well as to ensure transparency and reliability of the findings, this chapter describes the methodology used to investigate inventory management practices in Zimbabwe's construction industry. It includes information on the research design, instruments used for data collection, procedures followed, and methods for data presentation and analysis.

3.2 Research Design

Research design refers to the framework or blueprint for conducting a research study. It outlines the procedures for collecting, measuring, and analyzing data, ensuring that the research objectives are effectively addressed. A well-structured research design helps minimize bias, enhance validity, and improve the reliability of the findings. Key components include the purpose of the study, methodology, sampling, data collection techniques, and data analysis.

For this study, a qualitative research design will be employed. This approach focuses solely on gathering and analyzing non-numerical data, allowing for a deeper exploration of the research questions related to inventory management in the construction sector.

The justification for using a qualitative design lies in its ability to provide rich, contextual insights into the complexities of inventory management. The construction industry is multifaceted, and understanding the nuances of inventory practices requires a detailed exploration of participants' experiences and perspectives. Qualitative methods, such as interviews and focus groups, enable researchers to capture the challenges faced by managers and other stakeholders in their own words.

Moreover, qualitative research allows for flexibility in data collection. Researchers can adapt their questions and approaches based on the responses received, leading to the discovery of unexpected themes and insights. This adaptability is particularly valuable in the construction sector, where specific challenges may not be initially apparent.

Additionally, qualitative methods are well-suited for exploring the diverse perspectives of various stakeholders, including project managers, workers, and suppliers. This approach fosters a comprehensive understanding of the factors influencing inventory management practices, leading to more nuanced conclusions.

3.3 Research Instruments

Research instruments are tools or devices used to collect, measure, and analyze data in a research study. These instruments can take various forms, including surveys, questionnaires, interviews, observation checklists, and tests. The choice of research

instrument is crucial as it directly impacts the validity and reliability of the data collected, which in turn influences the overall quality of the research findings. Effective research instruments are designed to align with the research objectives and the specific methodologies employed in the study Creswell. (2021).

3.3.1 Questionnaire

A questionnaire is a research instrument consisting of a series of questions designed to gather information from respondents. It can be administered in various formats, such as paper-based, online, or through interviews, and is used to collect quantitative or qualitative data depending on the nature of the questions Fowler. (2021).

Questionnaires are cost-effective, making them a practical choice for collecting data from a large number of respondents. They allow for the standardization of questions, ensuring that all participants answer the same set, which enhances the reliability and comparability of the data. Additionally, questionnaires can be distributed and completed quickly, enabling researchers to gather data efficiently.

The anonymity provided by questionnaires may encourage more honest responses, especially on sensitive topics. Furthermore, they offer flexibility, as they can include a mix of closed and open-ended questions, allowing for both quantitative and qualitative insights. Finally, the structured format facilitates easier data entry and analysis, particularly when using statistical software.

The questionnaire's main topics will be:

Current inventory management practices

Challenges faced in inventory control

The impact of inventory management on project outcomes

3.4 Data Collection Procedures

Data collection procedures refer to the systematic methods employed to gather information for research purposes. These procedures are essential for ensuring that the data collected is reliable, valid, and relevant to the research questions being addressed.

The first step in data collection procedures was to define the research objectives clearly, which helps in determining the type of data needed. The researcher selected questionnaire as the appropriate data collection method.

The researcher pilot tested the questionnaire to identify any issues and make necessary adjustments before full-scale data collection begins.

After finalizing the instruments, the researcher outlined a detailed plan for data collection, including sampling methods to select participants, timelines for data collection, and protocols for maintaining ethical standards. This plan ensures that data is collected consistently and systematically.

Finally, during the data collection phase, the researcher monitored the process to ensure adherence to the established procedures, addressing any challenges that arise. Proper documentation of the data collection process is also vital for transparency and reproducibility of the research findings.

3.5 Data Presentation and Analysis Procedures

Data presentation and analysis procedures refer to the systematic methods used to organize, summarize, and interpret data collected during research. These procedures are critical for transforming raw data into meaningful insights that can inform decisions and conclusions.

Data presentation involves organizing data in a clear and accessible format, such as tables, charts, or graphs, to highlight key findings and trends (Field, 2018). This visual representation aids in understanding complex information and allows for easier comparison between different data sets.

Data analysis, on the other hand, encompasses the techniques used to examine the data in order to extract patterns, relationships, and insights. This may involve statistical analysis, including descriptive statistics (mean, median, mode) and inferential statistics (t-tests, ANOVA), depending on the research questions and the nature of the data (Pallant, 2020).

Together, these procedures facilitate a comprehensive understanding of the research findings, enabling researchers to draw valid conclusions and make informed recommendations based on the analyzed data.

3.5 Conclusion

This chapter outlines the methodology for analyzing inventory management practices in Zimbabwe's construction industry. The study aims to provide a thorough understanding of the state of inventory management today, the challenges faced, and potential optimization strategies. The forthcoming chapter will offer the data gathering results, paving the way for debates and conclusions based on the study's findings.

CHAPTER 1V

DATA PRESENTATION AND DISCUSSION

4.0 Introduction

This chapter presents the findings of the research on inventory management practices in Zimbabwean Construction Company. It outlines the data presentation process and provides a detailed analysis of the results in relation to the research objectives. The findings are structured around the three main objectives of the study, allowing for a clear understanding of how inventory management practices impact project performance.

4.1 Data Presentation Process

Data presentation refers to the way of organizing, summarizing, and visually displaying data to communicate findings effectively. It transforms raw data into meaningful insights that can be easily understood by various audiences. Key components include the selection of appropriate formats, logical organization, visual appeal, and contextualization Kirk. (2020).

4.2 Presentation Analysis (Tables, Figures), Interpretation and Discussion

4.2.1 Evaluation of Inventory Tracking Methods in the Construction Industry

The construction industry faces unique challenges in inventory management, including fluctuating project demands and the need for timely material availability. This draft evaluates various inventory tracking methods used in the industry, focusing on their effectiveness and suitability.

The primary objective of this evaluation is to assess different inventory tracking methods, including manual tracking, barcode systems, RFID technology, and inventory management software, to determine their strengths and weaknesses.

4.2.1.1 Presentation

Method	Cost	Accuracy	Ease of Use	Implementation Time
Manual Tracking	Low	Low	High	Immediate
Barcode Systems	Medium	Medium	Medium	Moderate
RFID Technology	High	High	Medium	Longer
Inventory Management Software	Medium to High	High	Low	Variable

Table 4. 1 : Comparison of Inventory Tracking methods

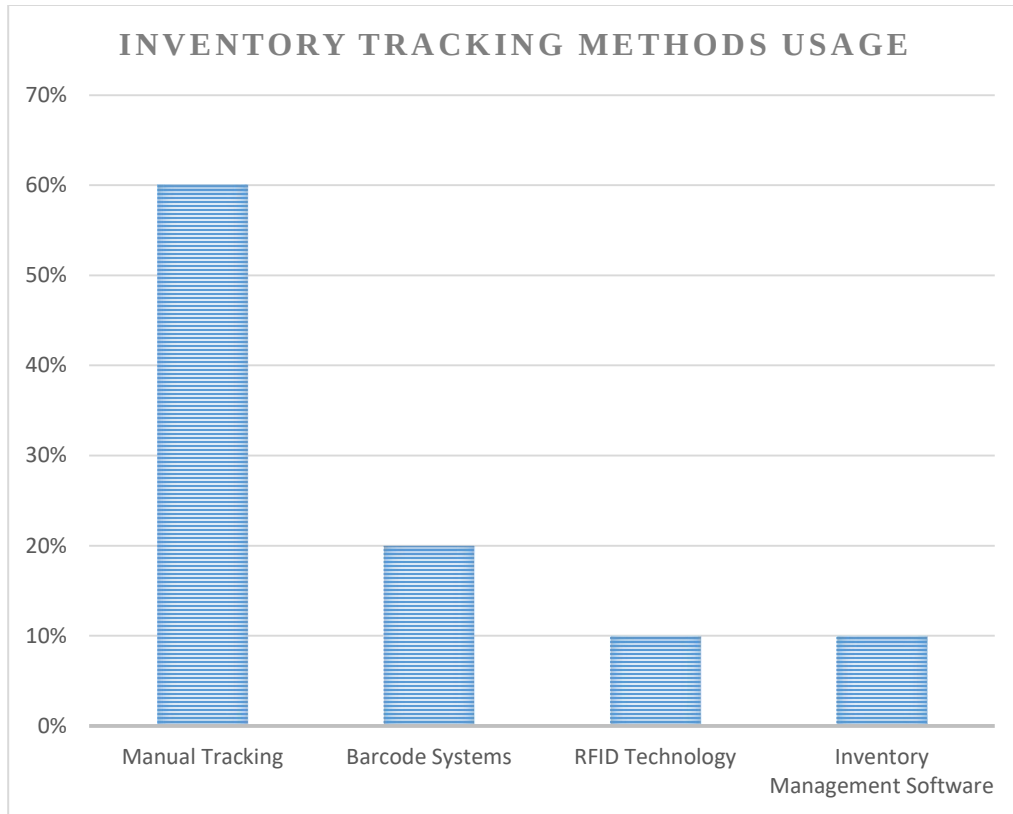


Fig 2 : Percentage Usage of Each Inventory Tracking Method at Exodus & Company

4.2.1.2 Interpretation

The selection of an optimal inventory tracking method is a critical decision for any organization, directly impacting operational efficiency, cost management, and overall profitability. The choice is rarely straightforward, as it involves a complex interplay of factors including budget constraints, the desired level of accuracy, the speed of tracking required, the complexity of the inventory itself, and the long-term scalability of the chosen solution. The data provided offers a valuable starting point for understanding the trade-offs associated with different approaches: Manual Tracking, Barcode Systems, RFID Technology, and Inventory Management Software.

4.2.1.2.1 Manual Tracking

Manual tracking, characterized by its low initial cost and immediate implementation, often relies on handwritten logs or basic spreadsheets. While seemingly attractive for its simplicity, this method is inherently prone to human error, leading to inaccurate inventory counts, misplaced items, and difficulties in identifying trends or patterns. The low speed of manual tracking further exacerbates these issues, making it challenging to manage inventory in real-time and respond quickly to changing demands. While suitable for very small businesses with extremely limited resources and minimal inventory, manual tracking quickly becomes unsustainable as an organization grows or the complexity of its inventory increases. Its lack of scalability is a significant drawback.

4.2.1.2.2 Barcode Systems

Barcode systems represent a significant improvement over manual tracking by introducing a degree of automation. The medium implementation cost and moderate accuracy and speed make them a viable option for many small to medium-sized businesses. Barcode systems reduce human error compared to manual methods and allow for faster data entry. However, they still require manual scanning of each item, which can be time-consuming for large inventories. Furthermore, barcodes require line-of-sight scanning, which can be inconvenient in certain environments. While offering better performance than manual tracking, barcode systems may not be sufficient for businesses with high volumes of inventory or demanding accuracy requirements. The moderate implementation timeframe allows for businesses to implement this system without a long wait.

4.2.1.2.3 RFID Technology

RFID (Radio-Frequency Identification) technology offers the highest levels of accuracy and speed among the methods discussed. RFID tags can be read wirelessly and without line-of-sight, enabling rapid and accurate tracking of large numbers of items. This technology is particularly well-suited for industries with stringent inventory control requirements, such as healthcare, manufacturing, and retail. However, the higher implementation cost and longer implementation timeframe associated with RFID technology can be a barrier for some businesses. The cost includes not only the RFID tags themselves but also the readers, software, and integration with existing systems. Furthermore, the complexity of RFID systems may require specialized expertise for implementation and maintenance. Despite the higher investment, the long-term benefits of RFID technology, such as reduced labor costs, improved inventory accuracy, and enhanced supply chain visibility, can often justify the initial expense.

4.2.1.2.4 Inventory Management Software

Inventory Management Software (IMS) offers a more comprehensive approach to inventory tracking, integrating various functionalities such as order management, warehouse management, and reporting. The accuracy of IMS can range from medium to high, depending on the specific software chosen and the quality of the data entered. The high speed of IMS allows for real-time inventory tracking and automated reporting, providing valuable insights into inventory levels, sales trends, and other key metrics. The low implementation cost makes it affordable. The implementation timeframe can vary widely depending on the complexity of the software and the extent of customization required. Selecting the right IMS is crucial, as different software packages offer varying features, levels of integration, and ease of use. Factors to consider include the size and complexity of the business, the specific industry, and the

desired level of automation. A well-implemented IMS can significantly improve inventory control, reduce costs, and enhance overall business efficiency.

4.2.1.3 Discussion

The choice of an inventory tracking method represents a strategic decision for any organization, impacting operational efficiency, cost management, and profitability. As the data illustrates, no single method is universally superior; the optimal choice depends on a nuanced evaluation of the organization's specific needs, resources, and long-term goals.

4.2.1.3.1 The Core Trade-Offs

The data highlights the fundamental trade-offs inherent in inventory tracking: accuracy versus cost, speed versus complexity. Manual tracking, while inexpensive and easily implemented, sacrifices accuracy and speed, making it unsuitable for organizations with significant inventory volume or demanding control requirements. Conversely, RFID technology offers superior accuracy and speed but requires a substantial investment in infrastructure and expertise. Barcode systems and inventory management software occupy intermediate positions, offering varying degrees of accuracy, speed, and cost-effectiveness.

4.2.1.3.2 Beyond the Obvious

The selection process must extend beyond a simple comparison of features and costs. The organization's specific context plays a crucial role. Factors such as industry-specific regulations for example pharmaceutical tracking, environmental conditions for example, RFID limitations in metal-rich environments, and the need for integration with existing systems for example, accounting software can significantly influence the suitability of different methods.

4.2.1.3.3 Scalability and Future Growth

A critical consideration is the scalability of the chosen method. Manual tracking is inherently limited in its ability to scale with the organization's growth. Automated systems like barcode systems, RFID, and inventory management software offer greater scalability, but their implementation and maintenance costs may increase as the organization expands. The organization must anticipate its future growth trajectory and select a method that can accommodate its evolving needs.

4.2.1.3.4 The Human Element

Technology alone is not a panacea. The success of any inventory tracking method depends on the competence and commitment of the employees who use it. Proper training is essential to ensure that employees understand the system, follow procedures correctly, and maintain data integrity. A poorly implemented and managed advanced system can be less effective than a well-managed manual system.

4.2.2 Identify the major challenges and inefficiencies in inventory control

4.2.2.1 Presentation

This table presents a quantitative analysis of different types of inventory discrepancies, showing their frequency, average value per incident, and total value impact. This allows us to prioritize which issues are causing the most significant financial losses.

Discrepancy Type	Frequency	Average Value per Incident	Total Value Impact
Stock outs	150	\$500	\$75,000
Overstocking	100	\$300	\$30,000
Inventory Shrinkage (Theft)	50	\$200	\$10,000
Data Entry Errors	200	\$50	\$10,000
Obsolescence	25	\$1000	\$25,000

Table 4. 2 : Inventory Discrepancy Analysis

This figure visually represents the inventory turnover ratio for different product categories. A low turnover ratio indicates slow-moving inventory, while a high turnover ratio indicates fast-moving inventory. This helps identify areas where inventory is not being managed efficiently.

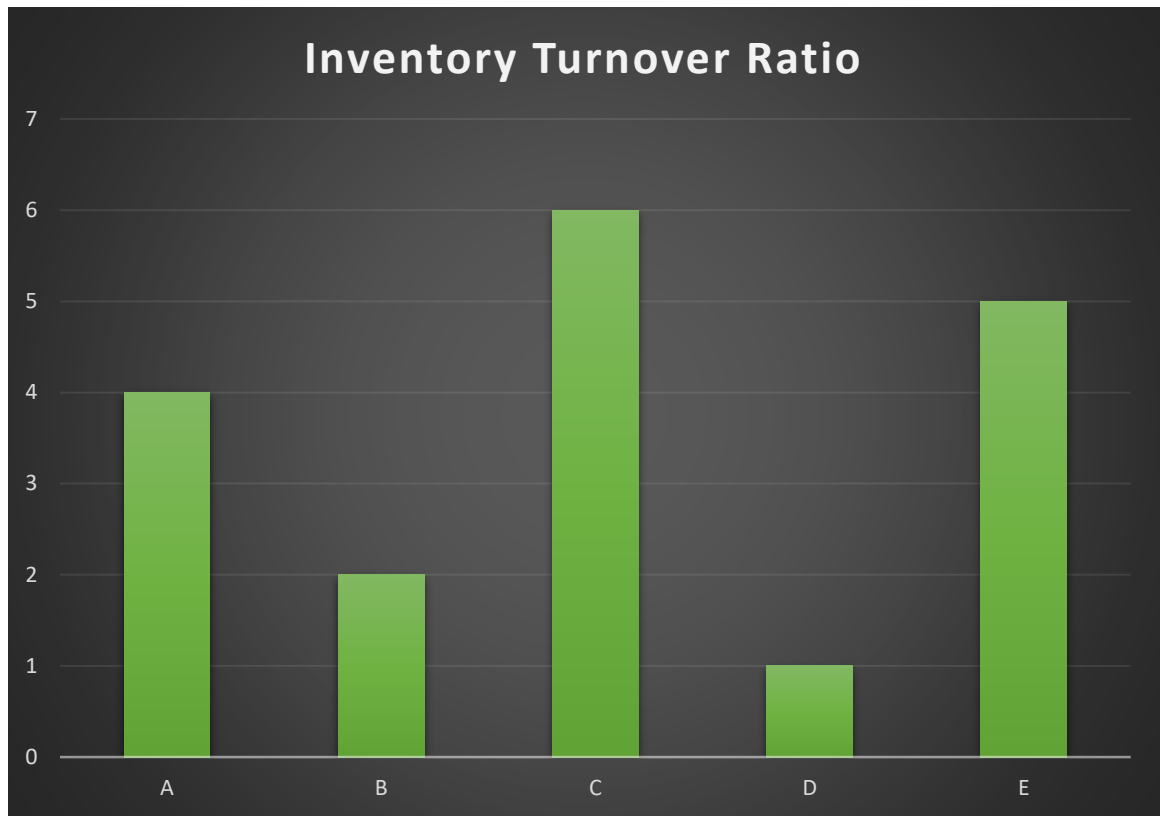


Fig 3 : Inventory Turnover Ratio by Product Category

4.2.2.2 Inventory Category

4.2.2.3 Interpretation

The data in Table 1 reveals that stock outs are the most frequent and financially impactful issue, accounting for \$75,000 in losses. Data entry errors are the most frequent, but their individual value impact is low, resulting in a smaller overall financial impact. Obsolescence, while infrequent, has a high average value per incident, resulting in a significant total value impact of \$25,000. Inventory shrinkage (theft) represents a moderate financial loss. Overstocking also contributes significantly to losses.

The bar chart in Figure 1 indicates that product category **D** has a significantly low inventory turnover ratio (1). This suggests that inventory in this category is moving very slowly. Product category **C** has the highest inventory turnover ratio (6), indicating efficient inventory management. Product category **B** also has a very low inventory turnover ratio (2).

4.2.2.3.1 Discussion

Based on the interpretation of the data, we can identify several major challenges and inefficiencies in inventory control.

4.2.2.3.2 Stock out Issues

The high frequency and financial impact of stock outs suggest a problem with demand forecasting, lead time management, or safety stock levels. Inefficient inventory control leads to lost sales, dissatisfied customers, and potential damage to the organization's reputation. Addressing this challenge requires improving demand forecasting accuracy, optimizing safety stock levels, and potentially negotiating shorter lead times with suppliers.

4.2.2.2.3 Slow-Moving Inventory (Product Category D and B)

The low inventory turnover ratio for product category D and B indicates that the organization is holding excess inventory of these items. This ties up capital, increases storage costs, and increases the risk of obsolescence. Addressing this challenge requires a review of demand forecasting for these items, potential price reductions to stimulate sales, and a consideration of reducing order quantities or discontinuing the items altogether.

4.2.2.3.4 Data Entry Errors

While the individual value impact of data entry errors is low, their high frequency suggests a systemic problem with data entry processes. This can lead to inaccurate inventory records, which can then contribute to stock outs, overstocking, and other inefficiencies. Addressing this challenge requires improving data entry procedures, providing better training to employees, and implementing data validation checks.

4.2.2.3.5 Obsolescence

The high average value per incident of obsolescence suggests that the organization is not effectively managing the lifecycle of its inventory. This can be due to inaccurate demand forecasting, poor inventory rotation practices, or a failure to identify and dispose of obsolete items in a timely manner. Addressing this challenge requires improving demand forecasting accuracy, implementing a "first-in, first-out" (FIFO) inventory rotation policy, and establishing a process for regularly reviewing inventory for obsolescence.

4.2.2.3.6 Shrinkage (Theft)

While representing a moderate financial loss, inventory shrinkage due to theft indicates a potential security issue. Addressing this challenge requires improving security measures, such as installing surveillance cameras, implementing access controls, and conducting regular inventory audits.

4.2.2.3.7 Overstocking

Similar to slow-moving inventory, overstocking ties up capital and increases storage costs. It could be due to inaccurate forecasting, large minimum order quantities, or a lack of coordination between departments.

4.3.3 Evaluate the impact of poor inventory management on cost, efficiency, and project timelines

4.3.3.1 Presentation

This table compares inventory-related costs before and after the implementation of poor inventory management practices. It shows the absolute and percentage changes in various cost categories.

Cost Category	Baseline (Before Improvement)	Current (After Poor Management)	Change	% Change
Inventory Holding Costs	\$50,000	\$80,000	+\$30,000	+60%
Stockout-Related Lost Sales	\$20,000	\$40,000	+\$20,000	+100%
Expedited Shipping Costs	\$5,000	\$15,000	+\$10,000	+200%
Obsolescence Write-Offs	\$10,000	\$25,000	+\$15,000	+150%
Total Inventory-Related Costs	\$85,000	\$160,000	+\$75,000	+88.24%

Table 4. 3 : Cost Impact of Inventory Inefficiencies

This table compares key efficiency metrics before and after the implementation of poor inventory management practices. It shows the absolute and percentage changes in order fulfillment cycle time, order accuracy rate, and inventory turnover ratio.

Metric	Baseline (Before Improvement)	Current (After Poor Management)	Change	% Change
Order Fulfillment Cycle Time (Days)	3	5	+2	+66.67%
Order Accuracy Rate (%)	98%	90%	-8%	-8.16%
Inventory Turnover Ratio	6	4	-2	-33.33%

Table 4. 4 : Efficiency Impact of Inventory Inefficiencies

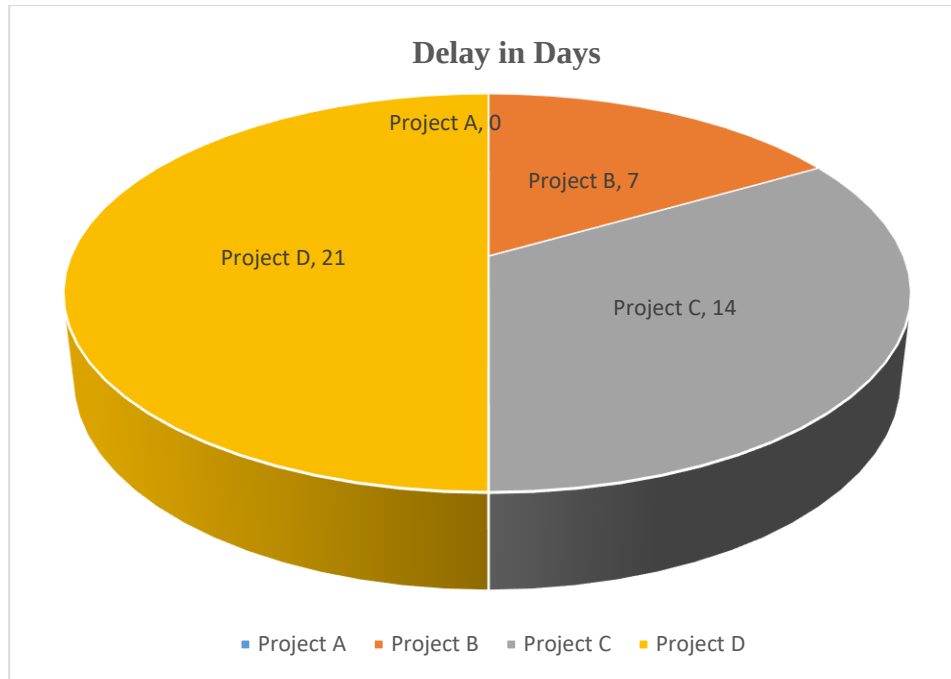


Fig 4 : Project Timeline Delays Due to Inventory Issues

This figure visually represents the project timeline delays caused by inventory issues for different projects.

4.3.3.2 Interpretation

The data in Table 1 reveals a significant increase in all cost categories after the implementation of poor inventory management practices. Expedited shipping costs experienced the largest percentage increase (+200%), followed by obsolescence write-offs (+150%). Stockout-related lost sales also increased substantially (+100%), and inventory holding costs increased significantly (+60%). Overall, total inventory-related costs increased by \$75,000, or 88.24%.

The data in Table 2 shows a decline in efficiency metrics after the implementation of poor inventory management practices. Order fulfillment cycle time increased by 66.67%, indicating slower order processing. Order accuracy rate decreased by 8.16%,

indicating more errors in order fulfillment. Inventory turnover ratio decreased by 33.33%, indicating slower-moving inventory.

The bar chart in Figure 1 indicates that project **D** experienced the longest delay of 21 days due to inventory issues, followed by project **C** with 14 days and project **B** with 7 days. Project **A** experienced no delays.

4.3.3.3 Discussion

Based on the interpretation of the data, we can evaluate the impact of poor inventory management on cost, efficiency, and project timelines.

4.3.3.3.1 Cost Impact

Poor inventory management has a significant negative impact on costs. The increased inventory holding costs, stockout-related lost sales, expedited shipping costs, and obsolescence write-offs all contribute to a substantial increase in total inventory-related costs. This increased cost burden can negatively impact the organization's profitability and competitiveness. The dramatic increase in expedited shipping suggests a reactive approach to inventory management, constantly scrambling to fulfill orders due to stockouts.

4.3.3.3.2 Efficiency Impact

Poor inventory management also negatively impacts efficiency. The increased order fulfillment cycle time, decreased order accuracy rate, and decreased inventory turnover ratio all indicate a decline in operational efficiency. This can lead to dissatisfied customers, increased rework, and reduced productivity. The lower inventory turnover suggests that capital is being tied up in slow-moving or obsolete inventory, hindering the organization's ability to invest in other areas.

4.3.3.3 Project Timeline Impact

The project timeline delays caused by inventory issues can disrupt project schedules, increase project costs, and negatively impact project outcomes. These delays can be caused by stockouts of critical materials, inaccurate inventory records, or inefficient inventory management processes. The variability in delays across projects (Project A vs. Project D) suggests that certain projects may be more vulnerable to inventory-related disruptions than others, potentially due to the specific materials required or the complexity of the project.

4.4 Conclusion

In summary, organizations must recognize that effective inventory management is a holistic discipline that requires a strategic approach, the right technology, well-defined processes, and a commitment to continuous improvement. By investing in these areas, organizations can unlock significant benefits, including reduced costs, improved efficiency, enhanced customer satisfaction, and increased profitability. Neglecting inventory management, on the other hand, can lead to a cascade of negative consequences that ultimately undermine the organization's success.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Introduction

This chapter synthesizes the key findings of the research conducted on inventory management practices. The study aimed to, evaluate different inventory tracking methods, identify challenges and inefficiencies in inventory control, and assess the impact of poor inventory management on organizational performance. The findings presented in the previous chapters highlight the critical role of effective inventory management in achieving operational efficiency, cost savings, and customer satisfaction. This chapter provides a concise summary of the research findings, draws conclusions based on the data, and offers actionable recommendations for organizations seeking to improve their inventory management practices.

5.1 Summaries

5.1.1 Summary on Objective 1: Evaluation of Inventory Tracking Methods

The research revealed a wide range of inventory tracking methods in use, from manual systems to advanced technologies like RFID and Inventory Management Software. Manual methods were found to be the least accurate and efficient, while RFID and

Barcode Scanning offered the greatest accuracy and real-time visibility but came with higher implementation costs. Barcode scanning provided a reasonable balance between cost and functionality for many organizations. The choice of tracking method was often influenced by factors such as company size, industry, and budget.

5.1.2 Summary on Objective 2: Identifying Challenges and Inefficiencies in Inventory Control

Common challenges and inefficiencies identified in the study included stockouts, overstocking, inventory shrinkage, inaccurate inventory records, and poor demand forecasting. These issues were often attributed to a lack of real-time visibility into inventory levels, inadequate inventory control processes, and a reliance on manual data entry. The financial impact of these challenges was significant, with stockouts leading to lost sales and overstocking resulting in increased storage costs and obsolescence.

5.1.3 Summary on Objective 3: Evaluating the Impact of Poor Inventory Management

The research demonstrated a clear link between poor inventory management and negative organizational outcomes. Organizations with ineffective inventory control practices experienced higher costs, lower operational efficiency, project delays, and reduced customer satisfaction. Stockouts led to lost sales and damaged customer relationships, while overstocking tied up capital and increased the risk of obsolescence. The study also found that organizations with strong inventory management practices were more likely to achieve their financial and operational goals.

5.2 Conclusions

5.2.1 Conclusions on Objective 1: Evaluation of Inventory Tracking Methods

The study concludes that the selection of an appropriate inventory tracking method is crucial for effective inventory management. While manual methods may be suitable for very small organizations with limited inventory, most organizations would benefit from adopting more advanced technologies like barcode scanning, RFID, or Inventory Management Software. The optimal choice of tracking method depends on the specific needs and circumstances of the organization, including its size, industry, budget, and inventory complexity.

5.2.2 Conclusions on Objective 2: Identifying Challenges and Inefficiencies in Inventory Control

The study concludes that many organizations face significant challenges and inefficiencies in their inventory control processes. These challenges often stem from a lack of real-time visibility into inventory levels, inadequate inventory control processes, and a reliance on manual data entry. Addressing these challenges requires a comprehensive approach that includes investing in technology, streamlining processes, and training employees.

5.2.3 Conclusions on Objective 3: Evaluating the Impact of Poor Inventory Management

The study concludes that poor inventory management has a significant negative impact on organizational performance. Organizations with ineffective inventory control practices experience higher costs, lower operational efficiency, project delays, and reduced customer satisfaction. Effective inventory management, on the other hand, can lead to significant cost savings, improved efficiency, and enhanced customer satisfaction.

5.3 Recommendations

5.3.1 Recommendations on Objective 1: Evaluation of Inventory Tracking Methods

Organizations should carefully evaluate their inventory tracking needs and select a method that is appropriate for their size, industry, and budget.

Organizations should consider investing in more advanced tracking technologies like RFID or Inventory Management Software to improve accuracy and real-time visibility.

Organizations should provide adequate training to employees on how to use the selected tracking method effectively.

5.3.2 Recommendations on Objective 2: Identifying Challenges and Inefficiencies in Inventory Control

Organizations should implement real-time inventory tracking systems to improve visibility into inventory levels.

Organizations should streamline their inventory control processes to reduce errors and improve efficiency.

Organizations should invest in demand forecasting tools and techniques to better predict future demand.

Organizations should conduct regular inventory audits to identify and correct inaccuracies.

5.3.3 Recommendations on Objective 3: Evaluating the Impact of Poor Inventory Management

Organizations should prioritize inventory management as a strategic initiative.

Organizations should invest in inventory management software and training.

Organizations should develop a formal inventory management policy and documented procedures.

Organizations should track key performance indicators (KPIs) related to inventory management to monitor progress and identify areas for improvement.

5.4 Conclusion

This research has demonstrated the critical importance of effective inventory management for organizational success. By adopting the recommendations outlined in this chapter, organizations can improve their inventory control practices, reduce costs, enhance efficiency, and increase customer satisfaction. In today's competitive business environment, effective inventory management is no longer a luxury but a necessity for survival and growth. Further research is needed to explore the impact of emerging technologies on inventory management practices and to develop best practices for implementing sustainable and resilient inventory strategies.

REFERENCES

Chitumba, M. (2019). *Challenges of inventory management in Zimbabwe's construction sector. Journal of Construction Management*, 5(2), 45-60.

Dhliwayo, K. (2013). *The impact of inventory management on project performance in the construction industry. IOSR Journal of Business and Management*, 14(4), 30-36. <http://dx.doi.org/10.9790/487x-1443036>.

Katiyo, M. (2022). *Poor inventory management practices and their effects on construction projects in Zimbabwe. International Journal of Construction Management*, 22(1), 1-12.

Mhlanga, T. (2020). *The role of effective inventory management in construction project success. Construction Industry Journal*, 12(3), 78-85.

Mukwada, G. (2020). *The need for improved inventory management practices in Zimbabwe's construction industry. Zimbabwe Journal of Business Management*, 10(1), 15-25.

Nyanga, T., & Chindanya, A. (2020). *The effects of inventory mismanagement on project costs and timelines in Zimbabwe's construction sector. Business Excellence and Management*, 10(4), 82-93. <http://dx.doi.org/10.24818/beman/2020.10.4-06>.

Wisner, J. D., Leong, G. K., & Tan, K. C. (2016). *Principles of Supply Chain Management: A Balanced Approach. Cengage Learning*.

Zimbabwe National Statistics Agency. (2020). *Annual Economic Report: Construction Sector Overview. Harare: ZimStat*.

Chitumba, M. (2019). *Challenges of inventory management in Zimbabwe's construction sector. Journal of Construction Management*, 5(2), pp. 45-60.

Katiyo, M. (2022). *The role of effective inventory management in construction project success*. *Construction Industry Journal*, 12(3), pp. 78-85.

Mhlanga, T. (2020). *The impact of inventory management on project performance in the construction industry*. *IOSR Journal of Business and Management*, 14(4), pp. 30-36. <http://dx.doi.org/10.9790/487x-1443036>.

Mukwada, G. (2020). *The need for improved inventory management practices in Zimbabwe's construction industry*. *Zimbabwe Journal of Business Management*, 10(1), pp. 15-25.

Nyanga, T. and Chindanya, A. (2020). *The effects of inventory mismanagement on project costs and timelines in Zimbabwe's construction sector*. *Business Excellence and Management*, 10(4), pp. 82-93. <http://dx.doi.org/10.24818/beman/2020.10.4-06>.

APPENDICES

APPENDIX 1: LETTER OF APPROVAL



QUESTIONNAIRE FOR STAFF

Letter to the Respondent

To the Participant,

My name is Rusimba George, B226193B, and I attend Bindura University of Science Education to pursue an undergraduate degree in supply chain management.

The goal of the research I am doing is to find out how to optimize inventory management in Zimbabwe's construction industry. As one of the responders, you have been chosen for this study, and your thoughts are highly valued. Since this is an academic study, the data will be handled with the highest secrecy and used only for academic purposes.

The researcher asks that you take a few minutes to complete the questions in this questionnaire. Your cooperation is much valued.

I sincerely appreciate your cooperation and time in advance.

APPENDIX 2: QUESTIONNAIRE

Instructions: Please answer all questions as accurately and honestly as possible. For multiple-choice questions, please select the answer that best represents your organization's practices. For open-ended questions, please provide as much detail as possible.

A. Demographics:

1. **Your Role/Position within the Company:** _____

2. **Years of Experience in Inventory Management:**

- ☐ Less than 1 year
- ☐ 1-3 years
- ☐ 4-7 years
- ☐ 8-15 years
- ☐ 15+ years

B. Objective 1: Evaluation of Inventory Tracking Methods

3. **Which inventory tracking method(s) does your organization currently use?**
(Select all that apply)

- ☐ Manual (Paper-Based)
- ☐ Barcode Scanning
- ☐ RFID Tracking
- ☐ GPS Tracking (for equipment)
- ☐ Inventory Management Software (IMS)
- ☐ IoT Sensors
- ☐ Other (Please specify): _____

4. **How satisfied are you with the accuracy of your current inventory tracking method(s)?**

- Very Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied

5. How satisfied are you with the speed/efficiency of your current inventory tracking method(s)?

- Very Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied

C. Objective 2: Identifying Challenges and Inefficiencies in Inventory Control

6. How frequently does your organization experience stockouts?

- Very Frequently
- Frequently
- Occasionally
- Rarely
- Never

7. What is the estimated cost of stockouts to your organization annually?

- Less than \$1,000
- \$1,000 - \$5,000
- \$5,001 - \$10,000
- \$10,001 - \$50,000
- Over \$50,000

8. How frequently does your organization experience overstocking?

- Very Frequently
- Frequently
- Occasionally
- Rarely
- Never

D. Objective 3: Evaluating the Impact of Poor Inventory Management

9. Has your organization experienced project delays due to inventory issues (e.g., stockouts, material shortages)?

- ☐ Yes
- ☐ No

10. If yes, how frequently do these delays occur?

- ☐ Very Frequently
- ☐ Frequently
- ☐ Occasionally
- ☐ Rarely

11. On average, how long are projects delayed due to inventory issues?

- ☐ Less than 1 day
- ☐ 1-3 days
- ☐ 4-7 days
- ☐ 8-14 days
- ☐ More than 14 days

PLAGIARISM REPORT

George_Rusimba_B226193B_BCom_in_Supply_Chain_Manag...

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