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Title

*Enhance the communication and storage management
of Nguyen Tan fire protection to
improve safety and efficiency*

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Declaration

I hereby affirm that the research presented in this thesis, titled "Enhance the communication and storage management of Nguyen Tan Fire Protection to improve safety and efficiency," represents my original work. The contents and findings presented herein are the result of my independent research, except where referenced. This thesis has not been previously submitted for any academic qualification or diploma at any other institution.

Signature:.....

Date:.....

Acknowledgement

I would like to express my deepest gratitude to everyone who supported me during my internship at Nguyen Tan

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Instructor's comments

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Abstract

The thesis titled "Enhance the Communication and Storage Management of Nguyen Tan Fire Protection to Improve Safety and Efficiency" addresses critical operational challenges within the organization, specifically concerning package storage management and interdepartmental coordination. Current inefficiencies in these areas lead to delays, errors, and compromised overall performance and safety. By investigating the root causes of disorganized package storage and insufficient cross-departmental coordination, this study aims to identify strategic interventions to streamline operations, enhance efficiency, and improve process safety. The research employs Lean Management Theory, Systems Theory, and ABC Analysis as theoretical frameworks to guide the analysis. Data collection includes both qualitative and quantitative methods, focusing on assessing current practices and identifying key factors contributing to operational inefficiencies. The findings reveal significant impacts of poor storage systems and inadequate communication on order accuracy and fulfillment. Recommendations are made to implement new technologies, modify operating procedures, and enhance training programs to promote teamwork and efficiency. The anticipated outcome is a safer, more efficient work environment with optimized resource utilization, reduced operational disruptions, and

improved overall performance. This study provides actionable insights that can be applied within the organization and across similar sectors facing analogous challenges.

Chapter 1: Introduction

I. The rationale of the study

The reason for conducting this study is the pressing need to tackle significant operational challenges within the organization, specifically concerning package storage management and interdepartmental coordination. Current inefficiencies in these areas result in delays, errors, and jeopardize overall performance and safety. Through investigating the root causes of disorganized package storage and insufficient cross-departmental coordination, this study aims to pinpoint strategic interventions that streamline operations, enhance efficiency, and bolster process safety. Addressing these issues aligns directly with the organization's objectives of optimizing resource utilization, reducing operational disruptions, and fostering a safer and more productive work environment.

II. Research objectives

The primary objective of this study is to comprehensively review current practices and systems concerning package storage and interdepartmental coordination within the organization. Initially, the study conducts a thorough assessment to ascertain the current status of package storage practices and the level of coordination between departments. Subsequently, it aims to identify and analyze the key factors that contribute to disorganization and lack of coordination. Finally, the study aims to research and recommend effective strategies to enhance the organization's package storage capabilities and interdepartmental coordination. The ultimate

goal is to closely evaluate the anticipated impact of these strategies on improving operational efficiency and enhancing safety standards across the organization, thereby providing actionable insights that significantly enhance overall performance and effectiveness.

III. Research question

This study aims to investigate key research questions concerning package storage and interdepartmental coordination issues within Nguyen Tan. First, it explores the primary causes of disorganized package storage, identifying factors like logistical bottlenecks or inefficient processes. Second, it aims to uncover existing gaps in coordination between departments that hinder operational efficiency, such as communication gaps or conflicting priorities. Third, the research focuses on identifying effective strategies to improve both archival organization and interdisciplinary coordination, considering factors such as technology integration or workflow redesign. Ultimately, the study evaluates the anticipated impact of these strategies on overall operational efficiency and safety within the organization, aiming to improve delivery times, reduce errors, and enhance workplace safety awareness. By addressing these research questions, the study aims to provide actionable insights and recommendations to enhance organizational processes and outcomes.

IV. Theoretical and conceptual framework

1. Theoretical framework

The theoretical framework for this study incorporates Lean Management Theory, Systems Theory, and ABC Analysis. These frameworks collectively establish a foundational understanding of how to systematically improve storage efficiency and foster effective communication within the organizational context. Lean Management Theory offers principles

for minimizing waste and optimizing processes, crucial for enhancing storage practices. Systems Theory provides insights into the interconnected nature of departments and the flow of information, essential for improving communication channels. ABC Analysis categorizes inventory based on importance and turnover rates, guiding strategic decisions to allocate storage resources effectively. Together, these frameworks provide a comprehensive framework for addressing operational challenges and promoting efficiency across organizational functions.

a. Lean Management Theory

Lean Management theory represents a paradigm shift in manufacturing efficiency and organizational effectiveness. At its core, Lean Management aims to maximize customer value while minimizing waste through continuous improvement processes. This approach originated from the Toyota Production System (TPS) and emphasizes principles such as Just-in-Time (JIT) production and Jidoka (built-in quality). JIT ensures that products are produced only as needed, reducing inventory costs and improving responsiveness, while Jidoka empowers workers to detect and address issues early, enhancing overall quality and reliability (James et al, 2007). Lean Management fosters a culture of continuous improvement (Kaizen), where every employee is encouraged to seek ways to streamline processes and eliminate non-valueadded activities, ultimately leading to enhanced operational efficiency and customer satisfaction.

Continuous

Just-in-Time Production

Improvement

Jidoka

Stability and Safety

Figure 1: The Lean Management Theory

b. System Theory

Systems theory, as explained by Ludwig von Bertalanffy in "General Systems Theory: Foundations, Development, Applications," offers a framework to understand how complex systems work across different areas. According to Bertalanffy, 1968, systems theory focuses on how parts of a system interact and influence each other. It suggests that to fully grasp how a system functions, we must study not just its individual components but also their relationships and how they work together. This approach helps explain how systems self-regulate and adapt, showing their ability to manage change and maintain stability over time. Bertalanffy's theory is valuable for exploring a wide range of topics, from how organizations operate to how living organisms function in their environments (Bertalanffy, 1968).

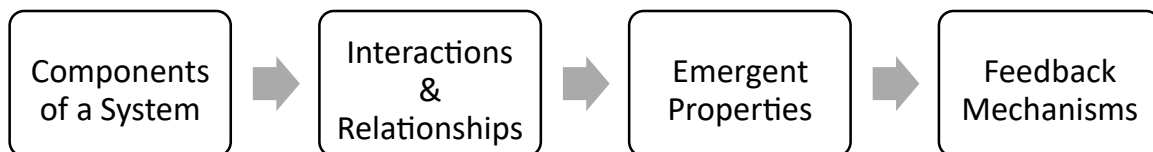


Figure 2: The System Theory

c. ABC Analysis

ABC analysis is a method used in inventory management to classify items based on their relative importance and value to an organization. According to Richard et al., 2001, ABC analysis provides a systematic approach to optimizing inventory control strategies by

identifying and managing high-value items effectively. It categorizes inventory into three groups: A, B, and C. The A category includes high-value items that contribute significantly to revenue or production, despite often constituting a small percentage of the total inventory count. B category items are moderately important, while C category items are low in value and typically make up the bulk of the inventory but have minimal impact on revenue. This method helps businesses prioritize their inventory management efforts, focusing resources on items that have the greatest impact on operational efficiency and profitability.

Category	Description	Characteristics
A Category	High-value items that contribute significantly to overall inventory value and turnover.	Approximately 20% of items Contribute to 70-80% of total value
B Category	Moderate-value items with moderate turnover rates.	Approximately 30% of items Contribute to 15-25% of total value
C Category	Low-value items with the lowest turnover rates.	Approximately 50% of items Contribute to 5-10% of total value

Table 1: ABC Analysis Chart

2. Conceptual framework:

In this study, the conceptual framework is structured around three main categories of variables: independent variables, intervening variables, and dependent variables. The independent variables encompass the implementation of Lean Management principles, the application of

Systems Theory, and the utilization of ABC Analysis within the organizational context. Lean Management principles focus on reducing waste, improving efficiency, and fostering continuous improvement initiatives throughout the organization. Systems Theory, on the other hand, emphasizes holistic thinking, interdepartmental interactions, and feedback mechanisms to optimize organizational processes. ABC Analysis involves categorizing inventory items based on value and turnover rates to enhance inventory management strategies and resource allocation efficiency.

Intervening variables, such as organizational culture and technological integration, play crucial roles in shaping how the independent variables influence organizational outcomes.

Organizational culture affects the adoption and acceptance of Lean Management and Systems Theory principles among employees and departments, influencing their implementation effectiveness. Technological integration impacts the application of ABC Analysis and other management practices by facilitating data-driven decision-making and operational efficiency improvements.

The dependent variables in this framework include operational efficiency, interdepartmental coordination, and safety/risk management. Operational efficiency measures the effectiveness of Lean Management, Systems Theory, and ABC Analysis in streamlining processes, reducing waste, and enhancing productivity across the organization. Interdepartmental coordination assesses the level of collaboration and communication facilitated by the implemented management principles and analysis methods. Safety and risk management reflect improvements in safety protocols and risk mitigation strategies resulting from enhanced operational efficiencies and coordinated efforts between departments.

This conceptual framework provides a structured approach to examining how the theoretical underpinnings of Lean Management Theory, Systems Theory, and ABC Analysis contribute to organizational effectiveness and safety within the context of operational management. It serves as a guide for understanding the relationships between key variables and their potential impacts on organizational outcomes, guiding the research methodology and interpretation of findings in the study.

V. Significance of the study

The significance of this research is profound as it addresses critical operational challenges that impact organizational efficiency and safety. By focusing on the problems of disorganized package storage and inadequate coordination between departments, this study aims to find the root causes that contribute to operational inefficiencies. Volatility, latency, and error rates increase. Solving these problems not only promises to streamline workflows and increase resource utilization, but also has the potential to significantly improve an organization's overall performance. Furthermore, the findings and recommendations of the study are expected to provide actionable insights that can be applied not only within the organization but also across similar sectors facing with similar challenges. By enhancing storage organization and promoting better cross-departmental coordination, the study seeks to create a safer, more efficient work environment that maintains productivity and operational excellence. Therefore, the research results are anticipated to have far-reaching implications in optimizing processes, enhancing safety standards and ultimately contributing to the strategic goals and long-term success of the organization.

VI. The scope of the study

The scope of this study includes a thorough examination of current practices and systems related to package storage and interdepartmental coordination within Nguyen Tan. First, it involves an in-depth analysis of existing storage methods and logistics processes to identify inefficiencies and bottlenecks. This includes evaluating how packages are received, stored, and distributed throughout Nguyen Tan. Second, the study will investigate the dynamics of interdepartmental communication and cooperation to understand how different units within Nguyen Tan interact and coordinate their activities. This exploration will include identifying communication barriers, conflicting priorities, and areas where coordination can be improved. Third, the research aims to develop and test practical strategies to enhance package storage organization and optimize interagency coordination within Nguyen Tan. These strategies may involve implementing new technologies, modifying operating procedures, or enhancing training programs to promote teamwork and better efficiency. Finally, the study will measure the results and impact of the implemented strategies on performance metrics such as processing time, error rates, and resource utilization within Nguyen Tan. By focusing on these key areas, the research aims to provide actionable recommendations to enhance organizational processes, improve productivity, and contribute to a productive, engaged work environment.

VII. The organization of the study

This thesis is structured as follows:

- Chapter 1: Introduction and Context of Your Thesis – Provides the rationale, objectives, research questions, significance, scope, and organization of the study.

- Chapter 2: Literature Review – Reviews relevant literature on storage organization and interdepartmental coordination.
- Chapter 3: Methodology – Describes the research methods and procedures used in the study.
- Chapter 4: Findings and Discussion – Presents, analyzes and discusses of the research findings.
- Chapter 6: Conclusion and Recommendations – Summarizes the study, presents conclusions, and provides recommendations for future research and practice.

Chapter 2: Literature review

I. Definition of key terms:

In order to provide clarity and a common understanding of the concepts discussed in this study, it is important to define the key terms that are central to our research on improving storage efficiency and operational coordination within an organization. These definitions will help frame the discussions and analyses that follow.

- **Operational Efficiency:** This means doing things in the best way possible, using the least time and resources to get the most work done.
- **Interdepartmental Coordination:** This is how well different parts of a company work together, sharing information and collaborating to reach common goals.
- **Inventory Management:** This involves keeping track of products and materials, making sure there is enough stock without having too much, and organizing it all efficiently.
- **Lean Management:** A method focused on reducing waste and improving processes to make a company run more smoothly and efficiently.
- **Systems Theory:** A way of looking at a company as a whole, understanding how different parts interact and affect each other.
- **ABC Analysis:** A technique to sort inventory into three categories (A, B, and C) based on their importance, to help prioritize what needs the most attention.

II. Reviews previous works:

1. Communication challenges in warehouse management

Communication breakdowns are a persistent challenge within warehouse environments, often stemming from issues such as insufficient real-time information sharing, inefficient communication channels, and unclear communication structures. To address these challenges comprehensively, warehouses have explored various strategies and technologies. One effective approach includes equipping warehouse staff with phones, radios, PA systems, and wearable GPS devices. These tools enable swift and efficient communication across different areas of the warehouse, facilitating seamless information exchange and minimizing operational delays and errors (SmallBizClub, n.d). Additionally, the adoption of cloud-driven software has proven instrumental, providing a centralized platform for real-time data sharing and coordination. This technology empowers warehouse teams by ensuring instant access to critical information, thereby enhancing decision-making capabilities and overall operational agility. SmallBizClub emphasizes that cloud-based solutions streamline communication processes by ensuring that pertinent data is accessible to all stakeholders in real time.

Furthermore, establishing a clear communication structure is pivotal for optimizing warehouse operations. By defining roles, responsibilities, and communication protocols clearly, warehouses can mitigate misunderstandings and enhance workflow efficiency (SmallBizClub, n.d). This structured approach fosters a collaborative environment where teams can align efforts effectively towards achieving common objectives. Moreover, digital twin simulations represent an innovative tool for refining warehouse layouts and workflows virtually. McKinsey & Company highlights that digital twins enable companies to visualize and simulate different operational scenarios, allowing for informed decisions that optimize productivity and resource