

DIAGNOSING ERP IMPLEMENTATION CHALLENGES IN INVENTORY MANAGEMENT: A QUALITATIVE STUDY IN A FOOD DISTRIBUTION ENTERPRISE

Dewi Tri Astuti^{1*}, Tukhas Shilul Imaroh²

1. Master of Management Program, Mercubuana University, Indonesia

2. Faculty of Economics and Business, Mercubuana University, Indonesia

*Email corresponding author: 55123110078@student.mercubuana.ac.id

Abstract

The effectiveness of Enterprise Resource Planning (ERP) systems in inventory management remains a critical factor in enhancing operational performance, particularly in perishable goods industries. This qualitative study investigates the implementation of an internal ERP system within PT XYZ, a meat distribution company based in Indonesia. Data were collected through in-depth interviews with seven key informants representing multiple departments, including operations, finance, general affairs, and IT. The findings reveal persistent issues such as data discrepancies between physical stock and the system, frequent input errors, lack of real-time updates, and procedural non-compliance. Root causes include limited user training, absence of systematic validation mechanisms, and fragmented interdepartmental workflows. Thematic analysis was conducted using NVivo 12 software, enabling systematic coding and pattern identification across respondent narratives. Strategic recommendations include enforcing SOP compliance, institutionalizing routine audits, enhancing ERP user training, and strengthening executive support. This research offers empirical insights for practitioners and system developers aiming to optimize ERP deployment in mid-sized distribution firms, highlighting the socio-technical dynamics that affect system effectiveness in real-world environments.

Keywords: ERP implementation, inventory management, qualitative study, NVivo, food distribution

INTRODUCTION

In the digital transformation era, Enterprise Resource Planning (ERP) systems are increasingly recognized as essential tools for enhancing organizational efficiency and decision-making. ERP integrates core business processes across departments, offering real-time data visibility and improving interdepartmental collaboration. However, the realization of ERP benefits remains a challenge. PT XYZ, a meat distributor in Indonesia, implemented an ERP inventory module in early 2023 to improve stock accuracy and operational control. Despite the deployment, discrepancies between physical and system inventory persisted, alongside issues in user compliance and system adoption.

This study investigates the gap between the expected benefits of ERP and the operational reality within the company. By focusing on the inventory module, the research addresses how post-implementation practices influence data integrity and overall performance. The practical implication lies in providing actionable strategies to enhance ERP effectiveness, which is crucial for companies operating in sectors where stock accuracy directly affects sales and service delivery. Theoretically, this research contributes to the growing discourse on ERP implementation, particularly from a qualitative and interpretive perspective. The study also introduces practical insights on aligning ERP features with business processes and human resource capabilities.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

ERP systems are integrated software solutions designed to centralize and automate business functions such as finance, procurement, manufacturing, and inventory (Karim et al., 2023). Successful implementation hinges not only on system functionality but also on organizational readiness, user training, and change management (Coşkun et al., 2022). ERP's modular structure facilitates streamlined data flows and enhances operational transparency, but misalignment with business processes can hinder its full potential.

Inventory management, as part of the ERP system, plays a critical role in ensuring product availability while minimizing holding costs (Piasecki, 2009). Tools such as Material Requirements Planning (MRP), ABC analysis, and safety stock calculation are often embedded within ERP platforms to optimize inventory levels.

Several studies have explored ERP implementation challenges. Hietala & Päivärinta (2021) highlighted the difficulty of realizing ERP benefits post-implementation due to poor follow-through and lack of ownership. Sun et al. (2015) proposed a multi-phase evaluation model to monitor ERP performance and promote continuous improvement.

Given the qualitative nature of this study, hypothesis formulation is not required. Instead, research questions guide the exploration:

1. How is the ERP inventory module implemented in PT XYZ?
2. What factors hinder the effective use of the ERP system?
3. What strategies can optimize ERP utilization to improve inventory performance?

RESEARCH METHODS

This research adopts a qualitative case study approach under an interpretive paradigm, aiming to understand how ERP is perceived and utilized within the organization. The research was conducted at PT XYZ, focusing on the inventory module implemented in early 2023.

1. Research Design: Qualitative case study.
2. Informants: Seven key informants were selected through purposive sampling, representing operational, procurement, finance, IT, and warehouse departments.
3. Data Collection: In-depth semi-structured interviews were conducted, and relevant documents such as SOPs, stock reports, and ERP screenshots were reviewed.
4. Data Analysis: Thematic analysis was performed using NVivo 12 to code and categorize responses into emerging themes. Validity was ensured through triangulation and member-checking.

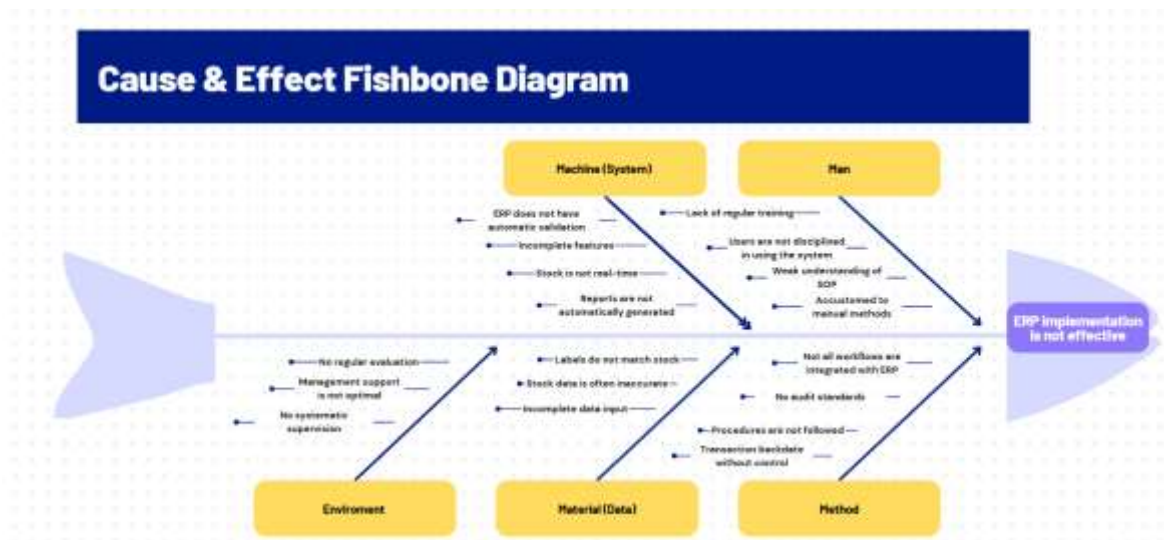
RESULTS AND DISCUSSION

The implementation of the ERP inventory module at PT XYZ has revealed several key challenges that compromise system effectiveness. Through thematic coding of interview transcripts, five dominant themes emerged, reflecting interconnected organizational and technical shortcomings. First, data inaccuracy surfaced as a frequent issue, with multiple informants reporting discrepancies between system records and physical stock. These variances, in some months exceeding 500 kg, disrupted operational flow and damaged stakeholder confidence in system reliability.

Human factors were also prominent. Input errors and low system adoption rates were primarily attributed to limited post-implementation training and a lack of supportive learning infrastructure. Many users continued to rely on manual processes or legacy systems, undermining ERP data consistency. Furthermore, the system's rigid workflows were found to be poorly aligned

with the dynamic and often urgent operational realities of warehouse activities. Users expressed the need for flexibility to adjust entries without compromising data integrity.

Another significant theme was the disconnect between documented SOPs and actual on-ground practices. ERP workflows were not adequately reflected in existing procedures, leading to inconsistent usage and confusion across departments. These root causes were then mapped using fishbone analysis to illustrate that problems stem from four main sources: Method, Man, Machine, and Environment. The synthesis of these findings highlights the importance of synchronized system design, user training, and institutional alignment to achieve the intended benefits of ERP systems.



Picture 1. Fishbone Diagram

CONCLUSION

The ERP inventory module at PT XYZ has not yet achieved its intended impact, despite full implementation in early 2023. Several critical challenges were identified, including inaccurate data between system and physical stock, insufficient staff training, and workflows that do not align with operational realities. These factors negatively influenced stock accuracy, delivery performance, and user trust in system data. The findings emphasize that technology alone is insufficient without adequate user competence, process standardization, and managerial reinforcement. Furthermore, the absence of systematic evaluation and feedback loops has contributed to stagnant post-implementation progress.

To improve ERP effectiveness, the study proposes four key strategies: realignment of SOPs with system design, comprehensive and ongoing user training, feedback-based internal audits, and strong executive leadership to enforce compliance. Although limited to a single case in the food distribution sector, these insights are applicable to similar firms facing ERP adoption challenges. Future studies should explore comparative models or incorporate quantitative ERP performance metrics.

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