

A STUDY ON INVENTORY MANAGEMENT SYSTEM INFOSYS PVT LDF

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Abstract

Effective inventory management is a critical component for the operational success of any large-scale IT and services enterprise, including Infosys Pvt Ltd. This study evaluates the inventory management system implemented at Infosys Pvt Ltd, identifying its core functionalities, impact on operational efficiency, and areas of potential improvement. With the rapid expansion of physical and digital assets, managing hardware, software licenses, and facility resources requires robust systems. The research explores the methodologies adopted for inventory tracking, procurement, and auditing, highlighting how advanced software solutions streamline these processes. Primary data collected from employees involved in operations and IT asset management, combined with secondary data from organizational reports and academic journals, form the basis of the analysis. The findings reveal that the current inventory management system significantly reduces asset misplacement, optimizes procurement cycles, and enhances overall transparency. However, challenges such as integration with legacy systems, occasional reporting discrepancies, and training requirements for new updates persist. The study concludes with strategic recommendations to integrate AI-driven predictive analytics and automated auditing tools to further fortify the inventory management framework. Ultimately, this research underscores the indispensability of a modern, automated inventory system in sustaining the operational excellence of a global IT giant.

Keywords: Inventory Management, IT Asset Management, Operational Efficiency, Procurement, Automation, Infosys Pvt Ltd, Supply Chain Management, Asset Tracking.

I. INTRODUCTION

In the contemporary business landscape, the management of physical and digital assets

stands as a cornerstone of operational efficiency. For global IT organizations like Infosys Pvt Ltd, inventory management transcends traditional warehousing; it

encompasses the meticulous tracking, deployment, and maintenance of thousands of IT assets, including laptops, servers, software licenses, and facility equipment. An effective Inventory Management System (IMS) ensures that the right resources are available at the right time, minimizing downtime and optimizing financial expenditure. The advent of sophisticated enterprise resource planning (ERP) systems has revolutionized how organizations handle inventory, shifting from manual ledger-based tracking to automated, real-time asset management.

Infosys Pvt Ltd, being a multinational corporation with a massive workforce and numerous global delivery centers, requires an inventory system that is both scalable and highly accurate. The complexity of their operations demands an IMS capable of managing procurement workflows, tracking asset lifecycles from acquisition to disposal, and ensuring compliance with software licensing agreements. Inefficiencies in this domain can lead to substantial financial losses, compliance penalties, and operational bottlenecks. Therefore, understanding the impact and effectiveness of their current inventory management practices is vital for sustaining their competitive advantage in the IT services sector.

Despite the implementation of advanced systems, large organizations continually face challenges such as accurate demand forecasting, mitigating the risk of obsolescence, and integrating new technologies into existing frameworks. This study aims to provide a comprehensive analysis of the Inventory Management System at Infosys Pvt Ltd. It will explore the system's architecture, its benefits in daily operations, and the perspectives of the employees who interact with it regularly. By

identifying both strengths and bottlenecks, the study seeks to offer actionable insights that can contribute to the optimization of inventory processes, ensuring they remain resilient and adaptive to future technological advancements.

Research Objectives

1. To study the existing inventory management processes and systems at Infosys Pvt Ltd.
2. To identify the primary factors influencing the efficiency of inventory operations.
3. To analyze the impact of the inventory management system on overall operational productivity.
4. To evaluate the benefits of the current system, such as cost reduction, accuracy, and asset visibility.
5. To identify the challenges and operational risks associated with the existing inventory management framework.
6. To assess the satisfaction level of employees and management regarding the inventory processes.
7. To suggest recommendations for improving the inventory management system using emerging technologies.

Research Methodology

- **Research Design:** The study follows a descriptive and analytical research design to thoroughly evaluate the inventory management system.
- **Sources of Data:** Both primary and secondary data are utilized to provide a well-rounded analysis.
- **Primary Data Collection:** Data are collected through a structured questionnaire distributed among

- employees involved in IT infrastructure and asset management at Infosys Pvt Ltd.
- **Secondary Data Collection:** Information is gathered from company reports, academic journals, books, articles, and reputable online sources related to inventory management.
 - **Sampling Technique:** Convenience sampling method is adopted to select the respondents from the target population.
 - **Sample Size:** A total of 100 respondents (employees of Infosys Pvt Ltd) are selected for the study.
 - **Data Analysis Tools:** Percentage analysis, tables, graphical representations (charts), and fundamental statistical techniques are employed to analyze the collected data.
 - **Study Area:** The research focuses on the inventory and asset management operations within Infosys Pvt Ltd.

II. Review of Literature

The domain of inventory management has been extensively studied, reflecting its critical role in supply chain management and organizational operations. Early theories on inventory control focused on mathematical models such as the Economic Order Quantity (EOQ), aiming to minimize the total costs of inventory, including holding and ordering costs (Harris, 1913). As businesses evolved, the focus shifted towards Just-In-Time (JIT) manufacturing and materials requirement planning (MRP), emphasizing the reduction of waste and the alignment of inventory levels with production schedules (Womack et al., 1990). These foundational concepts highlight that

effective inventory management is not merely about storage but about optimizing the flow of goods and information.

In the context of IT and service-oriented organizations, inventory management takes on a different paradigm. Studies by researchers like Attaran (2001) emphasize the transition from physical goods management to IT Asset Management (ITAM). In these environments, the inventory consists largely of technological hardware, software licenses, and network infrastructure. The literature highlights that effective ITAM is crucial for mitigating risks associated with software audits, preventing hardware theft, and optimizing the utilization of technological resources. Furthermore, the integration of Enterprise Resource Planning (ERP) systems has been identified as a significant factor in enhancing the visibility and control of inventory across multiple organizational branches.

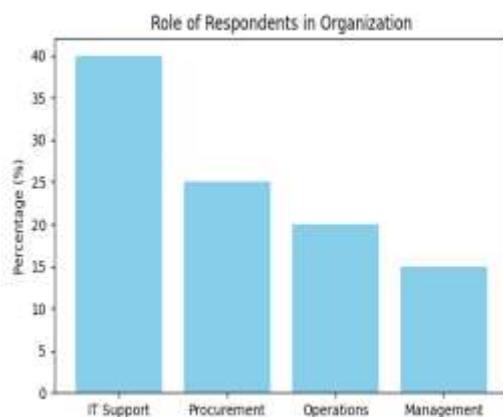
Recent studies have explored the impact of modern technologies such as the Internet of Things (IoT), Radio Frequency Identification (RFID), and Artificial Intelligence (AI) on inventory management. According to Lee and Lee (2015), IoT and RFID technologies facilitate real-time tracking of assets, significantly reducing manual errors and improving data accuracy. AI and machine learning are increasingly being utilized for predictive analytics, enabling organizations to forecast demand more accurately and automate procurement processes. However, existing literature also notes that the implementation of these advanced systems in large corporations like Infosys Pvt Ltd comes with challenges, including high initial costs, integration complexities, and the need for continuous employee training. This study seeks to build

upon this literature by examining how these concepts apply practically within the specific operational framework of a leading IT services provider.

Moreover, the shift towards cloud-based inventory solutions has offered companies unparalleled flexibility. According to Chen et al. (2018), cloud ERP systems allow decentralized teams to access centralized inventory data, fostering collaboration and timely decision-making. In multinational corporations, this capability is essential for balancing assets across different geographical locations. Despite these advancements, user adoption and system compliance remain persistent issues. Employees often find new inventory protocols cumbersome, which can lead to shadow IT and unrecorded asset movements. Therefore, addressing the human element in inventory management is just as important as the technological infrastructure.

III. Data Analysis & Inferences

Graph 1: Role of Respondents in Organization

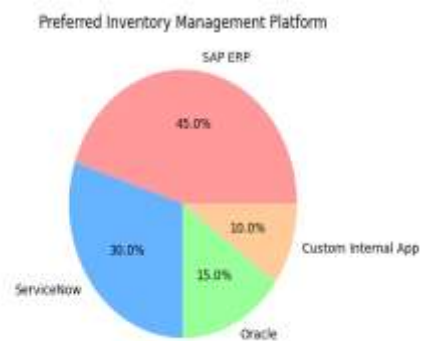


Interpretation

The analysis indicates that 40% of the respondents belong to the IT Support department, making it the largest category in

the study. Respondents from the Procurement department account for 25%, while Operations represent 20%, and Management comprises 15%. This distribution aligns with the operational structure of IT asset management, where IT support personnel interact most frequently with the inventory system for hardware deployment and maintenance. The representation across various departments ensures a holistic view of the inventory management processes, capturing perspectives from those who requisition, manage, and oversee the assets.

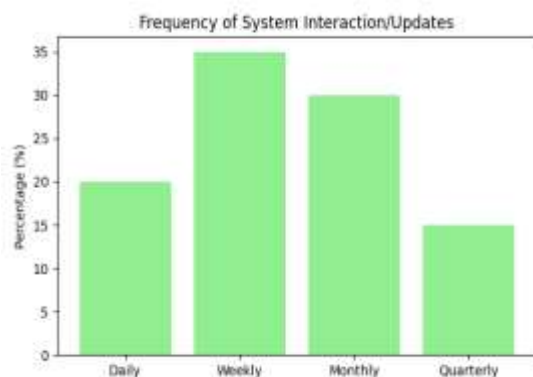
Graph 2: Preferred Inventory Management Platform



Interpretation

The findings reveal that SAP ERP is the most utilized and preferred platform for inventory management, selected by 45% of the respondents. ServiceNow follows with 30%, while Oracle and Custom Internal Applications account for 15% and 10%, respectively. The high preference for SAP ERP and ServiceNow indicates the organization's reliance on robust, industry-standard enterprise solutions that integrate asset management with IT service workflows. These platforms offer comprehensive features for tracking asset lifecycles, managing vendor relationships, and ensuring compliance, which are critical for an organization of this scale.

Graph 3: Frequency of System Interaction/Updates



Interpretation

The data shows that 35% of respondents interact with the inventory management system on a weekly basis, while 30% use it monthly, 20% daily, and 15% quarterly. The high frequency of weekly and daily interactions emphasizes that inventory management is a dynamic and ongoing process rather than a periodic audit task. Daily users are typically involved in continuous asset provisioning and support tickets, whereas weekly and monthly users likely engage in reconciliation, reporting, and procurement planning. This continuous engagement highlights the system's integration into the regular workflow of the employees.

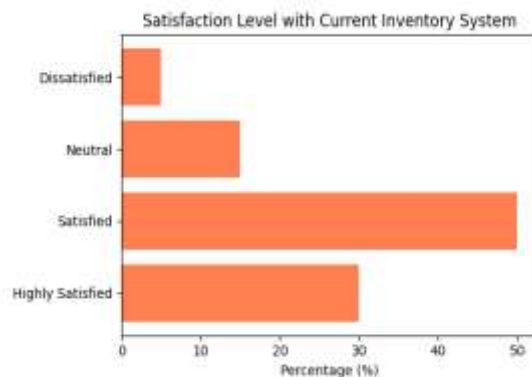
Graph 4: Main Challenge in Inventory Management



Interpretation

According to the analysis, System Integration with legacy tools is the primary challenge faced by employees, cited by 35% of the respondents. Data Accuracy concerns follow at 25%, while Complex User Interfaces and Training Needs are each cited by 20% of the respondents. The prominent issue of system integration suggests that as the organization adopts new technologies, ensuring seamless communication between different software environments remains difficult. Furthermore, maintaining data accuracy requires constant vigilance, and the complexity of enterprise software often necessitates ongoing training to prevent user errors and ensure full utilization of the system's capabilities.

Graph 5: Satisfaction Level with Current Inventory System



Interpretation

The satisfaction analysis reveals that a significant majority of the respondents have a positive perception of the current inventory system. Specifically, 50% are satisfied and 30% are highly satisfied, cumulatively representing 80% of the surveyed population. Only 15% remain neutral, and a mere 5% are dissatisfied. High satisfaction levels are largely attributed to the system's ability to streamline asset tracking, reduce manual documentation, and expedite the procurement process. The small fraction of dissatisfied users likely points to the aforementioned challenges regarding interface complexity and system integration, which, if addressed, could further elevate user satisfaction.

IV. FINDINGS

- A significant portion of the respondents interacting with the inventory management system belong to the IT Support and Procurement departments, indicating their central role in asset management.
- Enterprise-grade solutions, particularly SAP ERP and ServiceNow, are the preferred and most utilized platforms for managing inventory, reflecting their

robustness and suitability for large-scale operations.

- The inventory management system is highly integrated into daily and weekly workflows, demonstrating its importance as an ongoing operational tool rather than a static database.
- The primary benefits identified by employees include improved accuracy in asset tracking, automated procurement workflows, and enhanced visibility across various geographical locations.
- Despite the high satisfaction rates, system integration between new platforms and legacy applications remains the most prominent challenge hindering seamless operations.
- Data accuracy, while significantly improved by automation, still requires manual reconciliation, leading to occasional discrepancies.
- The complexity of enterprise software interfaces creates a learning curve for new employees, necessitating comprehensive and ongoing training programs.
- A vast majority (80%) of the respondents expressed satisfaction or high satisfaction with the current inventory management system, affirming its effectiveness in supporting the organization's logistical needs.
- The implementation of the system has positively impacted operational productivity by reducing the time spent on manual audits and accelerating the asset deployment process.
- Overall, the study finds that the inventory management system at Infosys Pvt Ltd is robust and effective, but continuous technological updates

and user training are essential to address existing challenges.

V. CONCLUSION

The study concludes that the inventory management system at Infosys Pvt Ltd is a critical operational asset that significantly enhances organizational efficiency. Through the adoption of advanced enterprise platforms like SAP ERP and ServiceNow, the company has successfully transitioned from manual asset tracking to a centralized, automated framework. The findings reveal that the system effectively manages the complex lifecycle of IT assets, from procurement to disposal, ensuring that resources are optimally utilized and accounted for. This high level of visibility reduces financial wastage associated with lost or idle hardware and ensures strict compliance with software licensing agreements. The overwhelming satisfaction among employees underscores the system's success in simplifying workflows and reducing administrative burdens.

However, the study also highlights that maintaining an effective inventory system in a rapidly evolving technological environment presents ongoing challenges. Issues such as system integration complexities, maintaining absolute data accuracy, and overcoming interface intricacies require continuous attention. Addressing these challenges through regular system upgrades, targeted employee training, and the adoption of modern integration protocols will further strengthen the inventory management process. Ultimately, the research affirms that a robust inventory management system is indispensable for a global IT services provider like Infosys Pvt Ltd. By continuously refining their asset

management strategies, the organization can sustain its operational excellence, optimize resource allocation, and maintain its competitive edge in the global market.

VI. FUTURE SCOPE

The future of inventory management systems is poised for significant transformation driven by emerging digital technologies. As organizations continue to expand, the integration of Artificial Intelligence (AI) and Machine Learning (ML) will play a pivotal role in predictive inventory management. Future implementations could leverage AI to accurately forecast asset demand, predict hardware failures before they occur, and automate the procurement process, thereby minimizing human intervention and errors. Additionally, the widespread adoption of the Internet of Things (IoT) and active RFID tags will enable real-time, precise location tracking of all physical assets across vast corporate campuses, virtually eliminating the occurrence of lost or misplaced equipment.

Future research in this domain can explore the practical impact of integrating blockchain technology into IT asset management to ensure tamper-proof auditing and enhanced security of software licenses. Researchers could also conduct comparative studies evaluating the efficiency of on-premise inventory systems versus fully cloud-native solutions in multinational environments. Furthermore, exploring the human-computer interaction aspect of enterprise software can provide insights into designing more intuitive interfaces that require less training and reduce user fatigue. By investigating these advanced technological avenues, organizations can continue to innovate their

supply chain and asset management processes, building ecosystems that are highly resilient, intelligent, and perfectly aligned with their strategic objectives.

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