OPTIMIZING INVENOTRY THROUGH ABC-FSN ANALYSIS

G. Wickramasinghe[1], Jayalal Wettasinghe[2] and Kasun Lankapura[3]

[1] National Water Supply & Drainage Board, Sri Lanka
[2]Department of Electromechanical Technology, University of Vocational Technology, Sri Lanka
[3]Asian Aviation Centre (Pvt) Ltd, Sri Lanka
gayanwickramasinghe06@gmail.com

Abstract: Effective inventory management is crucial for optimizing resources and ensuring uninterrupted operations in utility services like water supply. This research focuses on the application of ABC and FSN methods to optimize inventory within the central north region of the National Water Supply and Drainage Board. The study aims to identify critical inventory items by categorizing them based on their consumption value and movement frequency, which are essential for making procurement and stocking decisions. By analyzing 61 inventory items, including both fast-moving and slow-moving categories, this research provides a detailed classification that highlights the areas of excess stock and potential shortages .The integration of ABC-FSN analyses helps in prioritizing inventory control efforts, thereby reducing costs and improving the overall efficiency of the inventory management process. The findings underscore the importance of tailored inventory strategies for different categories of items, ensuring that the National Water Supply and Drainage Board can maintain optimal stock levels, reduce waste and enhance operational effectiveness. This study offers a practical approach to inventory optimization that can be adapted by other utility services facing similar challenges.

Keywords: Inventory Management, Optimization, ABC Analysis, FSN Analysis