National University of Science and Technology

Think in Other Terms
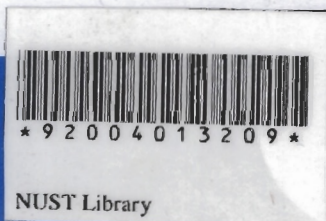
FACULTY OF INDUSTRIAL TECHNOLOGY

DEPARTMENT OF INDUSTRIAL AND MANUFACTURING ENGINEERING

Project Title: *Design of an Inventory Management System to Optimise Finished Product Availability and Capacity Utilisation.*

Datlabs (Private) Limited

datlabs
Enhancing the quality of life

Case Study: Datlabs (Pvt) Ltd.

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Abstract

This project is on the design of an effective, simple and affordable Inventory Management system that can be adopted any organisation seeking to improve its finished products availability on the market and to extract more capacity from their plant.

Competition among companies is becoming more and fiercer. In addition to increased quality conformance at optimum capacity, companies with rapid and reliable response to market demand are at an advantage. Rapid response to market demand is achieved by having viable capacity scheduling systems that require minimal inventories.

This dissertation covers the inventory management of both direct materials inventory and finished products inventory. It provides a design of a system which can be used to determine inventory size requirements of an organization so as to maximize finished product availability as well as total factory capacity utilization. The Theory of Constraints' Drum Buffer Rope approach is employed in designing the system. The results calculated will include Output Reliability and Capacity Utilization which will be used to compare DBR with the company's current inventory management approach. The organization under study is Datlabs Pharmaceuticals (Pvt) Ltd. Data from this company is used in the results analysis.