Eastern Economy Edition

INVENTORY MANAGEMENT

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PHI

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To
my beloved mother
N. Rudrani
(Kuttamangalam, Valathungal, Kollam)

Contents

Preface

The increasing pace of industrialization in India has in its wake highlighted a number of managerial problems. Among them the problem of inventory management is one of the most significant areas which requires efficient management. The present book is a modest attempt to provide the means of improving one's skills in the field of inventory management.

The entire text has been divided into nine chapters. All the chapters have been written in a lucid and illustrative manner and with a conscientious effort to present the subject matter in a way that is easily comprehensible to students.

Chapter 1 presents the core concepts of inventory management and discusses the need for inventory. Chapter 2 examines the need for a coordinated set-up for materials and its effect on total cost and other related aspects. Chapter 3 explains how inventory affects both profitability and liquidity consideration in industrial undertakings. Chapter 4 focuses on the vital role played by materials in any organization.

Chapter 5 discusses the application of a wide range of techniques to strike a happy balance between the operating efficiency and the cost of investment and other costs associated with large inventories. Chapter 6 analyses the inventory ratios to emphasize the impact of various inventory management techniques. Chapter 7 focuses on the difficulties in dealing with spare parts and how to manage the spare parts inventory efficiently. Chapter 8 explores the possibilities of the scientific and systematic approach for managing obsolete materials, surplus, and scrap.

Finally, a case study in Chapter 9 analyses the impact of inventory management techniques in the light of experience of a few selected manufacturing industries.

This text on inventory management is considered suitable for postgraduate students in commerce and management. The book will also be valuable to all those who are studying for professional qualifications such as CA, ICWA, and CS.

I am indebted to authors of several publications on this subject that benefited me in the preparation of this book. Suggestions from teachers and students are solicited so as to enable me to further improve this work in the near future.

D. Chandra Bose

CHAPTER 1

Introduction

Industrialization is an important means of modernization. The increased pace of industrialization in India, in its wake, has given rise to a number of managerial problems. Among them, the problem of inventory management is significant. The need for efficient management of available resources in any business organization requires no emphasis as every industrial undertaking is expected to be run efficiently. The industrial undertakings, on the one hand, are witnessing the ever-increasing cost of inputs which constitutes nearly 60 per cent of the total cost. On the other hand, there are constraints on increasing the price of finished products on account of fierce competition in the business. Left with no choice, the industrial undertakings are forced to manage their available resources more efficiently.

The role of capital is crucial in the context of industrial development. It is all the more true in the case of developing countries like India. The capital raised by a firm is invested in fixed assets as well as in current assets for performing its business activities. The portion invested in current assets is called the working capital and the inventory constitutes the largest proportion of it. Thus, inventories call for efficient management. Good inventory management is good financial management as well. One must agree with the observation that "when you need money, look at your inventories before you look to your bankers."

The efficient use of capital in an undertaking helps improve customer service and earn profit in the process. These objectives can be achieved with the given amount of capital either by maximizing the output or by maximizing the margin of profit, or by a combination of both. It would mean that the management must try to make this capital roll as fast as possible, which is often difficult to implement. It is also difficult to raise the margin of profit

extensively due to competition in business. Thus, the capital turnover and productivity of capital often become totally ineffective.

Several modern techniques have been developed and employed by managers as a solution to this problem. Among these, inventory management is the most effective. It enables a manager to increase productivity of capital by reducing material costs, preventing blocking up of large working capital for long periods and improving capital turnover.

The concept of inventory mangement has been one of the many analytical aspects of management. It involves optimization of resources available for holding stock of various materials. Lack of inventory can lead to stock-outs, causing stoppage of production, but a very high inventory on the other hand can result in increased cost of production due to high cost of carrying inventory. Thus optimization of inventory should ensure that stocks are neither too low nor too high.

Inventories like finished products, work-in-progress, components, raw materials, stores, spares, etc. accounted for 80 per cent or more of the working capital in some of the representative industries studied in the past (see for example, Table 1.1). It would appear that any effort put in towards rationalization of inventories can bring about an appreciable saving. For example, a scientific system of control can reduce investment in inventories considerably, sometimes by as much as 50 per cent or even more.

TABLE 1.1 Percentage of inventory to working capital in some representative industries

Name of industry	*Total working capital* (Rs in lakhs)	*Investment in inventories—materials, finished goods, and work-in-progress* (Rs in lakhs)	*Percentage of* (3) *to* (2)
(1)	(2)	(3)	(4)
Sugar	8016	7675	96
Cotton Textiles	19,668	18,563	94
Cement	1801	1679	93
Starch	213	197	92
Paints and Varnishes	356	323	91
Bicycles	452	403	89
Chemicals	3826	3117	81
Iron and Steel	3974	3131	79

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