

MANAGERIAL ECONOMICS



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First Edition 2011

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Preface

With the increasing application of economic concepts, theories and laws to business decision making, the importance of economics has increased tremendously. So much so, that not only business managers but technical professionals like engineers and professional consultants also need to have at least a working knowledge of economics. The reason is that economic science is essentially resource management engineering. Economics tells how to manage and use the available resources for deriving the maximum possible benefits.

The objective of this book is to provide a basic knowledge of economics to the students of engineering. In modern times, the functions and responsibilities of engineers do not remain confined to their task as a professional technician. A considerable section of professionally trained engineers set up their own business or take up the job of a professional manager. It is here that their function enters the area business decision making. In their business decision-making function, they have to apply economic concepts, logic, theories and laws and economic tools of analysis to arrive at an appropriate decision. Therefore, engineers need to have at least a working knowledge of economics.

The subject matter of this book covers the entire *Managerial Economics* syllabus of the Gautam Buddha Technical University. It includes both the basic micro-economic theories and some important aspects of macro-economics including concepts and measures of national income, inflation, growth and business cycles. A major part of this book has been taken from my book, *Managerial Economics*. The subject matter has been modified and reorganized to suit the requirements of the GBTU students. Also, some new sections have been added as required by the syllabus of *Managerial Economics* (GBTU). While writing this book, an attempt has been to present the subject matter in a precise and lucid manner. Economic laws and theories have been explained and illustrated by using graphical and algebraic tools of analysis and also illustrated with appropriate real life examples.

I am sure this book will meet the requirement of the engineering students for their study of managerial economics. Comments and suggestions from the readers are always welcome and will be duly acknowledged in the next editions of the book.

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Syllabi – Book Mapping

GAUTAM BUDDH TECHNICAL UNIVERSITY

EHU-501

Engineering & Managerial Economics

Syllabus	Mapping in the book:Chapter
UNIT-I Introduction: Meaning, Nature and Scope of Economics, Meaning of Science, Engineering and Technology. Managerial Economics and its scope in engineering perspective.	1
UNIT-II Basic Concepts Demand Analysis, Law of Demand, Determinates of Demand, Elasticity of Demand-Price, Income and cross Elasticity. Uses of concept of elasticity of demand in managerial decision.	2, 3, 4
UNIT-III Demand forecasting Meaning, significance and methods of demand forecasting, production function, Laws of returns to scale & Law of Diminishing returns scale. An overview of Short and Long run cost curves – fixed cost, variable cost, average cost, marginal cost, Opportunity cost.	5, 6, 7
UNIT-IV Market Structure Perfect Competition, Imperfect competition – Monopolistic, Oligopoly, duopoly sorbent features of price determination and various market conditions.	8
UNIT-V National Income, Inflation and Business Cycles Concept of N.I. and Measurement. Meaning of Inflation, Type causes & prevention methods, Phases of business cycle.	9, 10, 11



LEARNING OBJECTIVES

This chapter explains:

- What Economics is
- What Managerial Economics is
- Why Managers Need to Know Economics
- Application of Economics to Business Decisions: An Example
- The Scope of Managerial Economics in Engineering Perspective
- The Gap Between Theory and the Role of Managerial Economics

Introduction

Emergence of managerial economics as a separate course of management studies can be attributed to at least three factors: (a) growing complexity of business decision-making process due to changing market conditions and business environment, (b) the increasing use of economic logic, concepts, theories and tools of economic analysis in the process of business decision-making, and (c) rapid increase in demand

Note for the reader: For the sake of clarity and to avoid unnecessary repetition, the author has referred to both genders—male and female—as he/his/himself throughout the book.

for professionally trained managerial manpower. Let us have a glance at how these factors have contributed to the creation of 'managerial economics' as a separate branch of study.

It is a widely accepted fact that business decision-making process has become increasingly complicated due to the ever growing complexities in the business world. There was a time when business units (shops, firms, factories, mills, etc.) were set up, owned and managed by individuals or business families. In India, there were 22 top business families like Tatas, Birlas, Singhanias, Ambanis and Premjis, etc. Big industries were few and scale of business operation was relatively small. The managerial skills acquired through traditional family training and experience were sufficient to manage small and medium scale businesses. Although a large part of private business is still run on a small scale and managed in the traditional style of business management, the industrial business world has changed drastically in size, nature and content. The growing complexity of the business world can be attributed to the growth of large scale industries, growth of a large variety of industries, diversification of industrial products, expansion and diversification of business activities of corporate firms, growth of multinational corporations, and mergers and takeovers, especially after the Second World War. These factors have contributed a great deal to the recent increase in inter-firm, inter-industry and international rivalry, competition, risk and uncertainty. Business decision-making in this kind of business environment is a very complex affair. The family training and experience is no longer sufficient to meet the managerial challenges.

The growing complexity of business decision-making has inevitably increased the application of economic concepts, theories and tools of economic analysis in this area. The reason is that making an appropriate business decision requires a clear understanding of market conditions, the nature and degree of competition, market fundamentals and the business environment. This requires an intensive and extensive analysis of the market conditions in the product market, input market and financial market. On the other hand, economic theories, logic and tools of analysis have been developed to analyse and predict market behaviour. The application of economic concepts, theories, logic and analytical tools in the assessment and prediction of market conditions and business environment has proved to be of great help in business decision-making. The contribution of economics to business decision-making has come to be widely recognized. Consequently, economic theories and analytical tools, which are widely used in business decision-making have crystallized into a separate branch of management studies, called **managerial economics** or **business economics**.

Let us begin our study of managerial economics by learning what economics is about.

What is Economics

Managerial economics essentially constitutes of economic theories and analytical tools that are widely applied to business decision-making. It is therefore, useful to know,

‘what is economics’¹. Economics is a social science. Its basic function is to study how people—individuals, households, firms and nations—maximize their gains from their limited resources and opportunities. In economic terminology, this is called *maximizing behaviour* or, more appropriately, *optimizing behaviour*. **Optimizing-behaviour is selecting the best out of available options with the objective of maximizing gains from the given resources.** Economics is thus *a social science, which studies human behaviour in relation to optimizing allocation of available resources to achieve the given ends*. For example, economics studies how households allocate their limited resources (income) between the various goods and services they consume so that they are able to maximize their total satisfaction. It analyses how households with limited income decide ‘what to consume’ and ‘how much to consume’ with the aim of maximizing total utility.

Consider the case of firms, the producers of goods and services. Economics studies how producers—the firms—make the choice of the commodity to produce, the production technology, location of the firm, market or market segment to cater to, price of the product, the amount to spend on advertizing (if necessary) and the strategy for facing competition, etc.

At the macro level, economics studies how nations allocate their resources, men and material, between competing needs of the society so that economic welfare of the society can be maximized. Also, economics studies how government formulates its economic policies—taxation policy, expenditure policy, price policy, fiscal policy, monetary policy, employment policy, foreign trade (export-import policy), tariff policy, etc. – and, the effects of these policies.

Economics is obviously a study of the choice-making behaviour of the people. In reality, however, choice-making is not as simple as it looks because the economic world is very complex and most economic decisions have to be taken under the condition of imperfect knowledge, risk and uncertainty. Therefore, taking an appropriate decision or making an appropriate choice in an extremely complex situation is a very difficult task. In their endeavour to study the complex decision-making process, economists have developed a large kit of **analytical tools and techniques** with the aid of mathematics and statistics and have developed a large corpus of **economic theories** with a fairly high predictive power. *Analytical tools and techniques, economic laws and theories constitute the body of economics.*

What is Managerial Economics

The subject matter of economic science consists of the logic, tools and techniques of analysing economic phenomena as well as, evaluating economic options, optimization

1. It may be surprising that there is no final answer to this question. It is surprising because economics is the oldest social science and it has grown over the past two and a quarter centuries much faster than any other social science in terms of literature and application and yet could not be defined precisely. Economics has been defined differently at different stages of its growth. As yet, there is no universal definition of economics, perhaps, because ‘economics is [still] an unfinished science’ (Zeuthen) and also because ‘Economics is still a young science’ (Schultz).

techniques and economic theories. The application of economic science in business decision-making is all pervasive. More specifically, economic laws and tools of economic analysis are now applied a great deal in the process of business decision-making. This has led, as mentioned earlier, to the emergence of a separate branch of study called **managerial economics**. The application of economic concepts and theories in combination with quantitative methods is illustrated in Fig. 1.1.

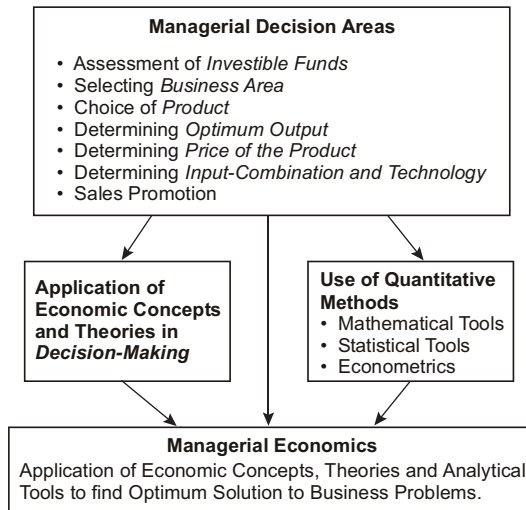


Fig. 1.1 Application of Economics to Managerial Decision Making

Managerial economics can be broadly defined as *the study of economic theories, logic and tools of economic analysis that are used in the process of business decision-making. Economic theories and techniques of economic analysis are applied to analyse business problems, evaluate business options and opportunities with a view to arriving at an appropriate business decision.* Managerial economics is thus constituted of that part of economic knowledge, logic, theories and analytical tools that are used for rational business decision making.

Let us look at some definitions of managerial economics offered by a few eminent economists.

'Managerial economics is concerned with the application of economic concepts and economics to the problems of formulating rational decision making'².

—Mansfield

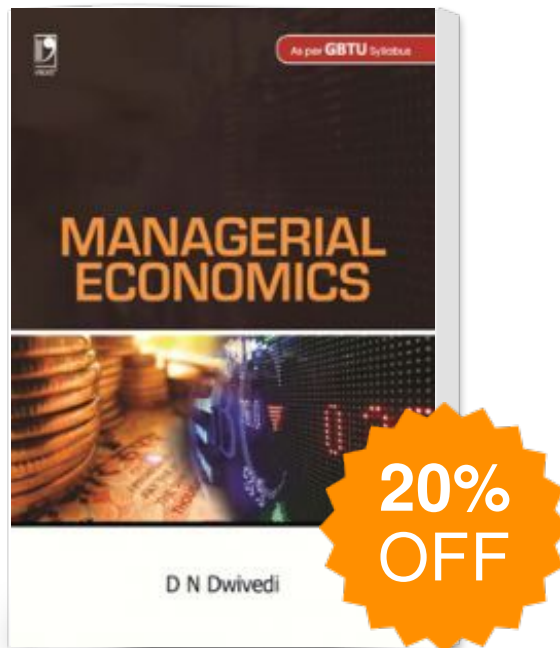
'Managerial economics ... is the integration of economic theory with business practice for the purpose of facilitating decision making and forward planning by management'³.

—Spencer and Seigelman

2. E Mansfield (ed.), *Managerial Economics and Operations Research*, (New York: W.W. Norton and Co. Inc., 1966), 11.

3. M H Spencer and L Seigelman, *Managerial Economics*, (Irwin Illinois, 1969), 1.

Managerial Economics (GBTU)



Publisher : SChand Publications ISBN : 9788125942634

Author : D. N. Dwivedi

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