

Engineering Economics and Financial Management

CHAPTER 1

Fundamental Economic Concepts

Introduction

Economics:

- ▶ A science that deals with the allocation, or use of scarce resources for the purpose of fulfilling society's needs and wants.
- ▶ The study of how limited resources is used to satisfy unlimited human wants.

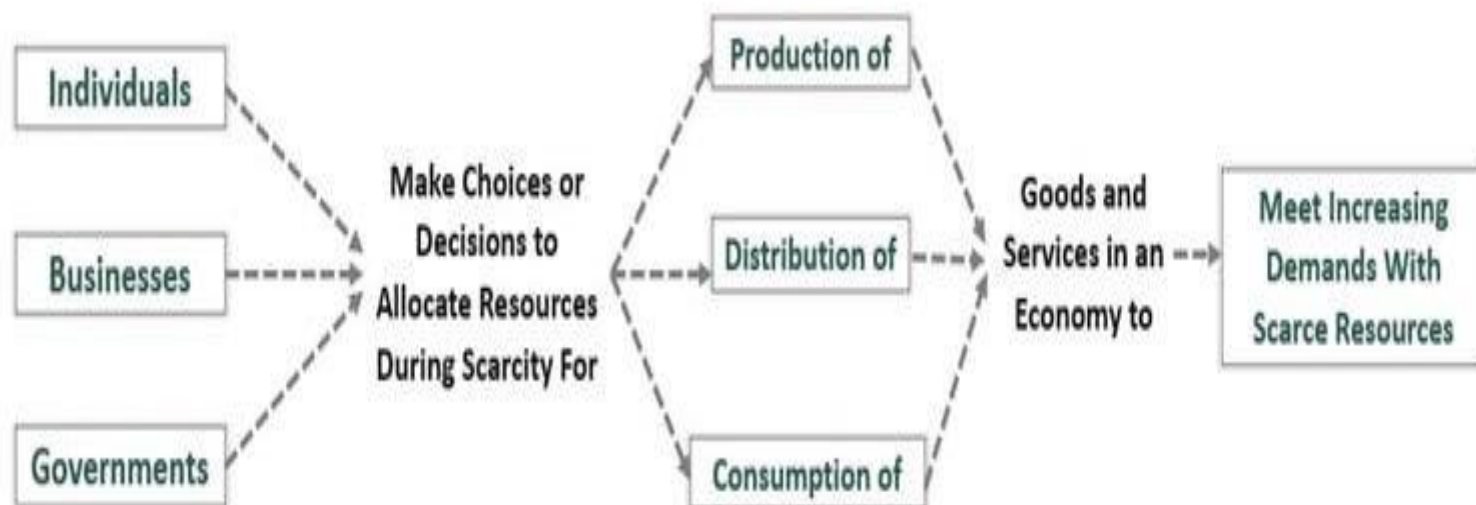
❖ Resources include:

- the time and talent of the people available,
- the land, buildings, equipment, and other tools on hand,
- Money.

❖ Important choices involve:

- ▶ how much capital to spend and how much to save?
- ▶ how to combine resources to produce good quality goods and services?

What Is Economics?



Engineering Economics:

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- ▶ The science that deals with techniques of analysis useful for selecting a preferable alternative from several technically viable ones.
- ▶ Engineers seek solutions to problems, along with the technical aspects the economic viability of each potential solution is normally considered.
- ▶ Fundamentally, Engineering economics involves formulating, estimating, and evaluating the economic outcomes, when alternatives to accomplish a defined purpose are available.

Why Engineering Economics?

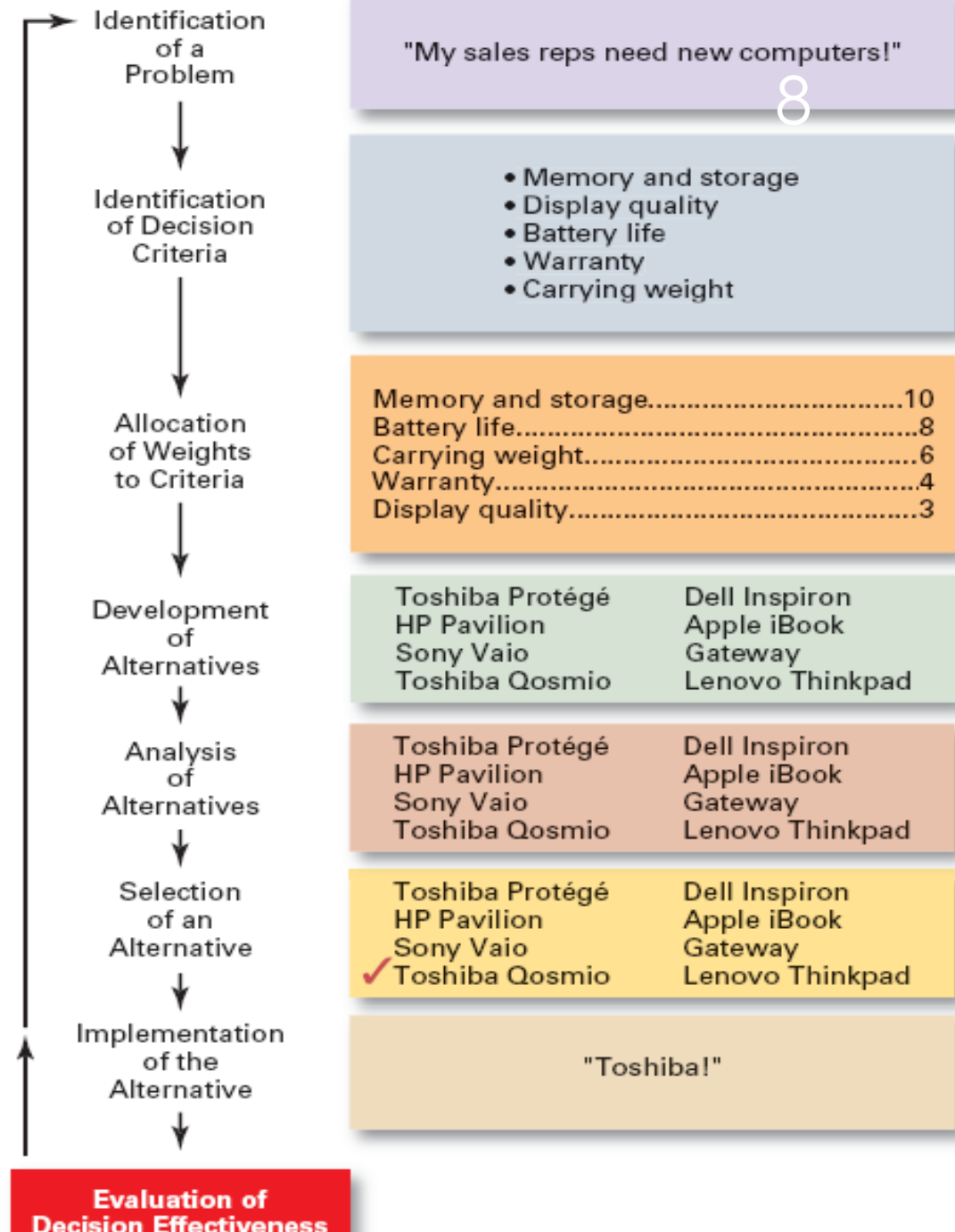
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- Decision Making:
- **Decision??**
- Making a choice from two or more alternatives.

► The Decision-Making Process

1. Understand the Problem
2. Collect all relevant data/information
3. Allocate weights to the criteria
4. Define the feasible alternatives
5. Analyze and Evaluate each alternative
6. Select the “best” alternative
7. Implement and monitor

The Decision-Making Process



TYPES OF ECONOMICS

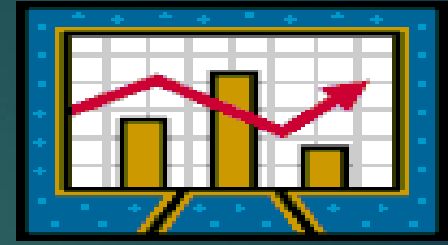
MACRO AND MICRO ECONOMICS

MACROECONOMICS

Players in an economic system:

1. Government
 2. Firms/ Businesses/ Corporates
 3. Household/ citizens
 4. Financial system/ Central banks
- Macroeconomics examines the aggregate behavior of the economy (i.e. how the actions of all the players in the economic system interact to produce a particular level of economic performance as a whole).

MACRO ECONOMICS



It focuses on issues such as

- ▶ Economic policies
- ▶ Inflation
- ▶ Unemployment
- ▶ Economic growth and other related issues, which affect the economy as a whole.
- ▶ These concepts are not simple & direct.

MICROECONOMICS

- ▶ *Microeconomics* is the study of individuals, households and firms' behavior in decision making and allocation of resources.
- ▶ Microeconomic study deals with issues like
 - ▶ what choices people make,
 - ▶ what factors influence their choices
 - ▶ how their decisions affect the goods markets by affecting the price, the supply and demand.

MICROECONOMICS

- ▶ Micro economic concepts are simple & easy to understand.
- ▶ Ex.: How much it would cost for a university or college to offer a new course?



THANK YOU

Engineering Economics Subject Books

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▶ Text Books:

- ▶ Engineering Economics – Riggs
- ▶ Engineering Economic analysis – Newnan
- ▶ Engineering Economy – Leyland

▶ Reference Books:

- ▶ Engineering Economy – Naidu
- ▶ Management – Stephen P. Robbins and Mary Coulter