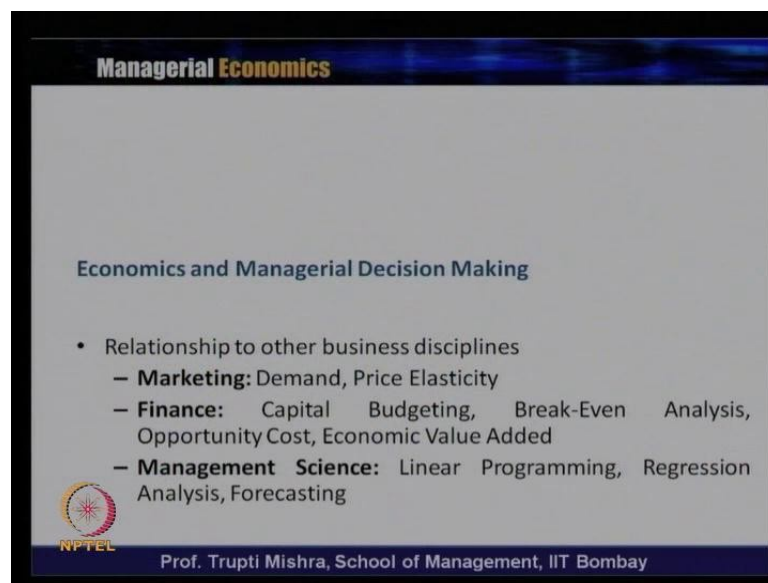


Managerial Economics
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Indian Institute of Technology, Bombay

Lecture - 2
Introduction to Managerial Economics - II

So, when it comes to the economic and the managerial decision making we need to see that how there is a relationship with the other discipline typically this managerial economics.


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Managerial Economics

Economics and Managerial Decision Making

- Relationship to other business disciplines
 - **Marketing:** Demand, Price Elasticity
 - **Finance:** Capital Budgeting, Break-Even Analysis, Opportunity Cost, Economic Value Added
 - **Management Science:** Linear Programming, Regression Analysis, Forecasting

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We talk about demand and price elasticity, in case of in case of managerial economics which has also a link with the discipline of marketing. We talk about the capital budgeting break even analysis, opportunity cost economic value added that is in relevance with the finance. Then we talk about linear programming, regression analysis, forecasting that is part of the management science. So, even if this topic we cover in the managerial economics it has also link with the other business discipline like marketing, finance and the management science.

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Managerial Economics

Economics and Managerial Decision Making

- Relationship to other business disciplines
 - **Strategy:** Types of Competition, Structure-Conduct-Performance Analysis
 - **Managerial Accounting:** Relevant Cost, Break-Even Analysis, Incremental Cost Analysis, Opportunity Cost

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Similarly, this has relationship with the strategy that is type of competition structure conduct performance analysis, it is the relationship with managerial accounting that is relevant cost, break even analysis, incremental cost analysis and opportunity cost.

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Managerial Economics

Economics and Managerial Decision Making

- Questions that managers must answer:
 - What are the economic conditions in a particular market?
 - Market Structure?
 - Supply and Demand Conditions?
 - Technology?
 - Government Regulations?
 - International Dimensions?
 - Future Conditions?
 - Macroeconomic Factors?

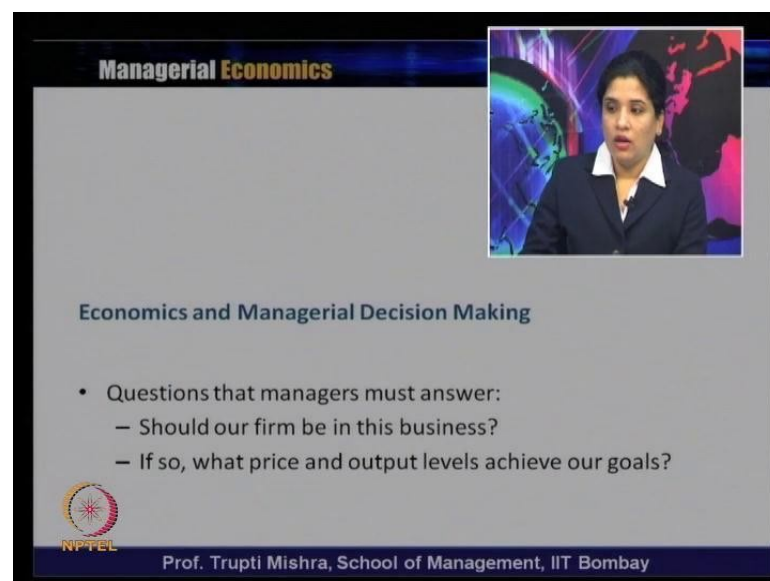
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Now, what are the questions, what is the general question the manager must answer or from here we can form what is the what kind of we can form an opinion that what kind of managerial decision problem is generally involved in the organization. Now, the question that the manager must answer, what are the economic condition in a particular market, what is the

market structure, what kind of form of market is being followed, what is the supply and demand condition, what is the technology being used.

What kind of government regulation is there, what is the international dimension in term of international trade and international finance, what is going to be the future condition for this firm? And what are the macroeconomic factor that change in the macroeconomic variable change in the government policy or change in the economic environment of economy, generally how it effects the firm.

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Managerial Economics

Economics and Managerial Decision Making

- Questions that managers must answer:
 - Should our firm be in this business?
 - If so, what price and output levels achieve our goals?

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Then the question that the manager must answer looking at all this factor, whether it is technology, whether it is policy, whether it is relationship with the international or the world economy. The question that the manager must answer is should our firm be in this business if, so what price and output levels achieve our goals.


So, if we look at these are the two basic managerial problem, what the manager faces that it should our firm be in business and if so what is the price and output levels is required to achieve our goals. Here we need to specify whether the profit has the maximization goal, whether the firm is having the revenue maximization goal.

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Managerial Economics

Economics and Managerial Decision Making

- Questions that managers must answer:
 - How can we maintain a competitive advantage over our competitors?
 - Cost-leader?
 - Product Differentiation?
 - Market Niche?
 - Outsourcing, alliances, mergers, Acquisitions?
 - International Dimensions?

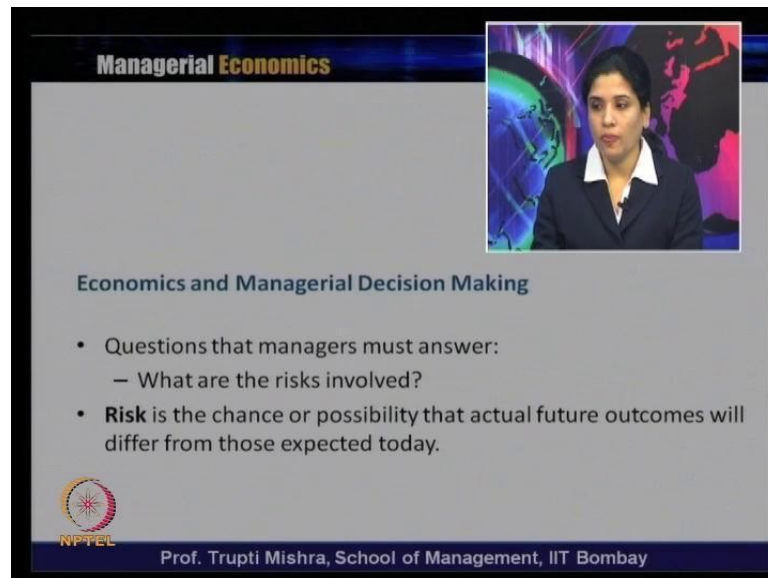
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Then looking at these there are few more set of challenges that is, for the managers what the managers must answer. That is how can we maintain a competitive advantage over our competitors, that is will take typically through the product differentiation whether it is a cost leader, whether it is a low-cost firm whether it is a high cost firm.

Product differentiation should be in term of content in term of quality in term of the services, whether it is a niche market, whether the outsourcing alliance merger acquisition is going to the beneficial. And again, what is the international dimension that is in term of the merger acquisition alliance and the outsourcing.


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Managerial Economics

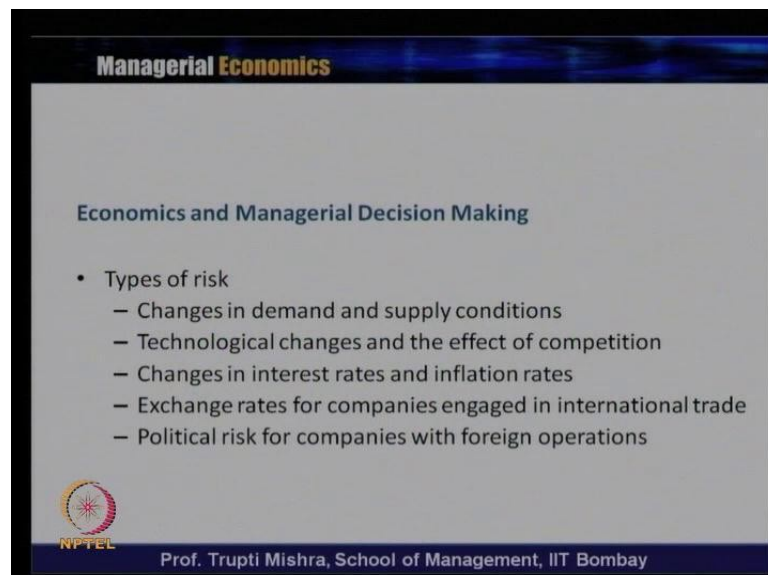
Economics and Managerial Decision Making

- Questions that managers must answer:
 - What are the risks involved?
- **Risk** is the chance or possibility that actual future outcomes will differ from those expected today.

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So, here again the another challenge comes from the manager, that what are the risks involved in that and what is risk? Risk is the chance or possibility that actual future outcomes will differ from those expected today. So, after taking all these decision, whether it is related to price, whether related to output the manager is also need to answer that what is the risk involved in the firm, when it is taking a specific step price strategy or specific output plan.


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Managerial Economics

Economics and Managerial Decision Making

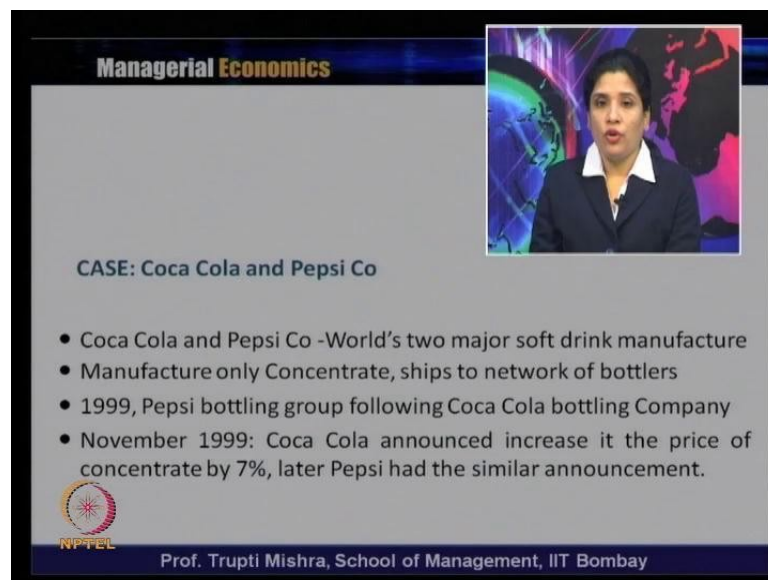
- Types of risk
 - Changes in demand and supply conditions
 - Technological changes and the effect of competition
 - Changes in interest rates and inflation rates
 - Exchange rates for companies engaged in international trade
 - Political risk for companies with foreign operations

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So, that again they had need to know the economic concept and the economic principle to understand this. Now, what are the type of risk over here? There is a risk associated when there is a change in the demand and supply condition; there is a risk associate when there is a

technological changes and the effective competition; there is a risk associate, when there is a change in the interest inflation rates, risks associated with exchange rates for companies engaged in international trade; and risks associated with political risk for companies with foreign operations.


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Managerial Economics

CASE: Coca Cola and Pepsi Co

- Coca Cola and Pepsi Co -World's two major soft drink manufacture
- Manufacture only Concentrate, ships to network of bottlers
- 1999, Pepsi bottling group following Coca Cola bottling Company
- November 1999: Coca Cola announced increase it the price of concentrate by 7%, later Pepsi had the similar announcement.

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So, now we will take a small example to understand this how this generally from the day to day activities of the company; how this managerial decision problem involve. So, if have some idea about this soft drinks manufacturer coco cola and Pepsi, there are two major soft drink manufacturer in the world; the manufacture only concentrate and ships to the network of bottlers and who finally gives the bottle soft drink. In 1999, Pepsi bottling group following coco cola, bottling company and what they did, and what they did, they announce the increase in the price of concentrate.


And how they did that, because in November 1999, coco cola also announced that increase in the price of concentrate by 7 percent; before that also, Pepsi followed another decision of coco cola like coco cola separated its manufacturing with the bottling company and the same decision followed by Pepsi. So, whether it is a separation of the bottling company or whether it is the increase in the price of coco cola immediately both the decision get followed by the Pepsi group.

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Managerial Economics

CASE: Coca Cola and Pepsi Co

- 7% increase in price will lead to increase in retail price from \$1.99 to \$2.49.
- Price increases were welcomed by Beverage Digest editor with the justification of improving over all profitability and margin.

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Now, 7 percent increase in the price will lead to increase in the retail price 1.99 dollar to 2.49 dollar. So, price increase is welcomed by beverage digest editor with the justification of improving the overall profit and margin. So, when there is a 7 percent increase in the price of the product that leads to increase in the retail price from 1.99 dollar to 2.49 dollar.


However the increase in the price is where welcome by the beverage digest editor and the justification for approving this is that and the overall profitability and margin and that is why the price should increase.

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Managerial Economics

Questions of Managerial Economics Related to the Case

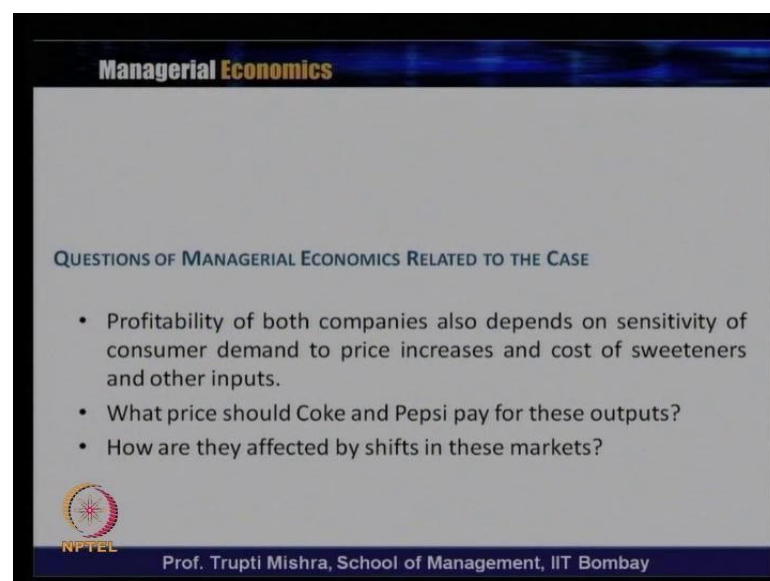
- If coke rises its price by 7% should Pepsi follow?
- How would the price increase affect consumer demand?
- How should advertising expenditure be related to pricing?
- Was it correct for Pepsi to follow coca cola in separating bottling business from manufacturing concentrate.

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Now here how we can refrain this to a question of managerial economics part of managerial economics or part of managerial business decision. If coke increases its price by 7 percent should Pepsi follow, this will typically address in the theory of market, typically address when you talk about the elasticity of demand. How would the price increase affect consumer demand? It is again the price demand relationship and the elasticity of demand.

How should advertisement expenditure to be related to pricing here we talk about the cost of production, how advertising cost increase the average cost this will discuss in the case of cost analysis and monopolistic competition. Was it correct to was it correct for Pepsi to follow coco cola in separating from bottling business from manufacturing concentrate? This we will analyze through our oligopoly market structure. Generally how the farm farms behave in the market when there is a they knows there is a interdependence from both the firm in the typical market.


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Managerial Economics

QUESTIONS OF MANAGERIAL ECONOMICS RELATED TO THE CASE

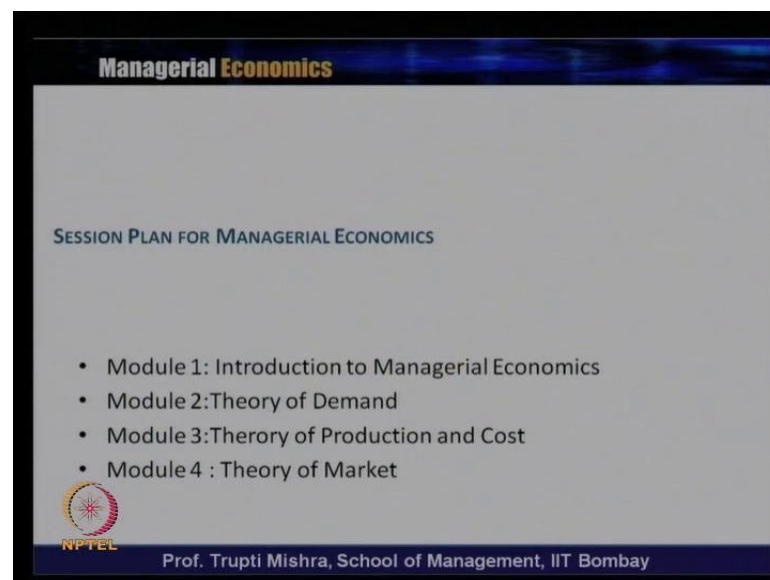
- Profitability of both companies also depends on sensitivity of consumer demand to price increases and cost of sweeteners and other inputs.
- What price should Coke and Pepsi pay for these outputs?
- How are they affected by shifts in these markets?

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Then here again the question related since the profitability of both the company also depends on the sensitivity of the consumer demand to price increase and the cost of sweeteners and other inputs the need to check what is the sensitivity. And the sensitivity can be analysed through the elasticity of demand, what price should coke and Pepsi pay for these outputs here again we will see that who is going to decide the price. So, partly it will be addressed in the cost analysis and partly it will be addressed in market structure.

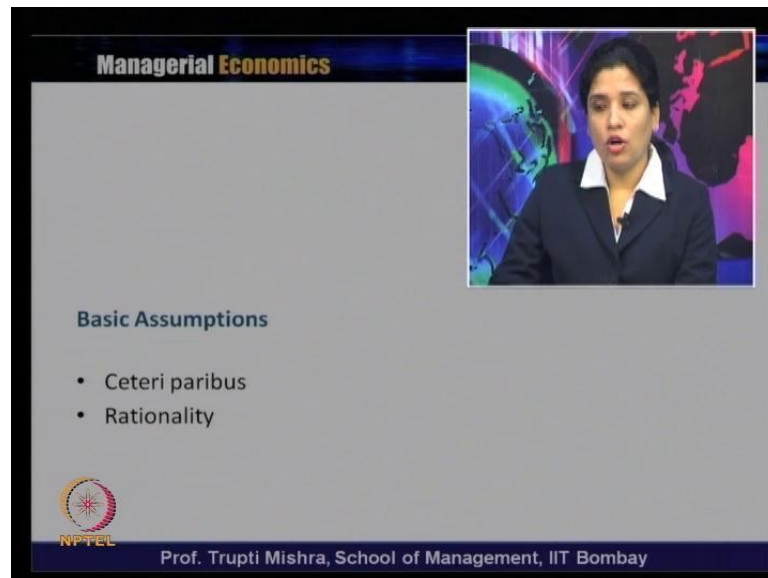
How are they affected by the shift in this market, so here again we will discuss this is in the context of the demand analysis and the theory of market structure. So, it just a small example to understand the difference between the understand the relationship between the company that is coke and Pepsi it is an event if you look at it is an event, it is an economic activity. And similarly, for the other activity what happens in the day to day business life that can be that solution can be found by using the economic concept on economic principle and this generally we address in the managerial economics.

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So, the entire managerial economics course is planned in 4 modules, module 1 talks about introduction to managerial economics typically the economics term what generally being used and the basic economic analysis and the optimization technique. Then theory of demand will address the relationship between demand supply market equilibrium and also the demand forecasting then theory of consumer behaviour. Then theory of consumer production and cost basically deals with short run long run production analysis, short run long run cost analysis; expansion path and economic region of economic region of production and also the economy of scale. Finally, module four will talk about the different kind of market structure the pricing practices and finally, the sum up of the entire course.

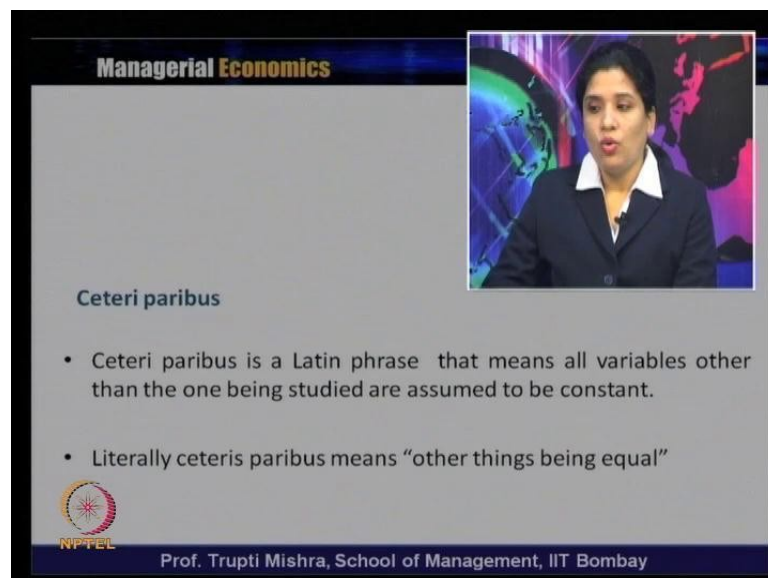
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The slide is titled "Managerial Economics" in the top left corner. In the top right corner, there is a video inset of a woman with dark hair, wearing a dark blazer over a white collared shirt, speaking. The main content area of the slide is titled "Basic Assumptions" and contains a bulleted list with two items: "Ceteri paribus" and "Rationality". At the bottom left, there is the NPTEL logo, and at the bottom right, the text "Prof. Trupti Mishra, School of Management, IIT Bombay" is displayed.

So, to start this module 1 there will be basically deals with the basic economic terms or the basic assumption generally will be using for the entire course or the, what is the basic generally used for all economic principle we are going to discuss this. So, there are two assumption mainly taken one is ceteris paribus another is rationality.

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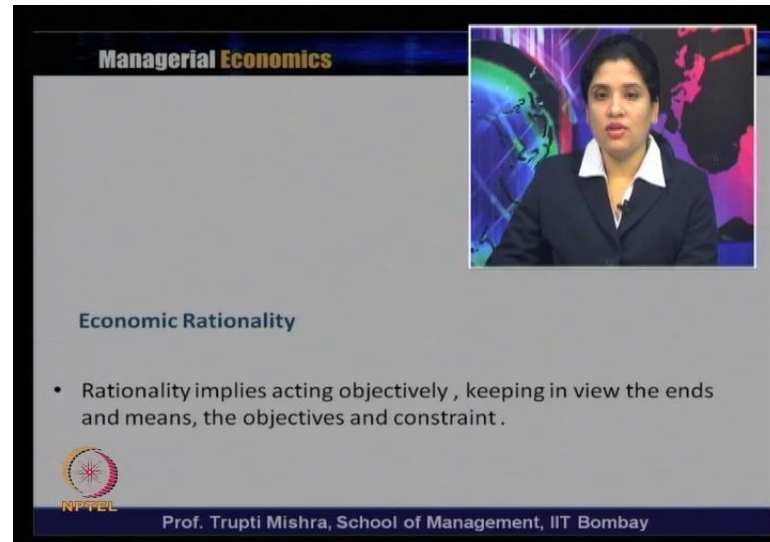


The slide is titled "Managerial Economics" in the top left corner. In the top right corner, there is a video inset of the same woman from the previous slide, speaking. The main content area of the slide is titled "Ceteri paribus" and contains a bulleted list with two items: "Ceteri paribus is a Latin phrase that means all variables other than the one being studied are assumed to be constant." and "Literally ceteris paribus means 'other things being equal'". At the bottom left, there is the NPTEL logo, and at the bottom right, the text "Prof. Trupti Mishra, School of Management, IIT Bombay" is displayed.

What is ceteris paribus, it is a it is a Latin phrase; that means, all variables other than the one being studied are assumed to be cost and here the literally the ceteri paribus means that other things being equal. So, if there are five variable the study variable are five when the

relationship between two variables are being studied the other three variables has to be constant

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Managerial Economics

Economic Rationality

- Rationality implies acting objectively, keeping in view the ends and means, the objectives and constraint.

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So, *ceteris paribus* means all variable other than one being studied are assumed to be constant. And the literal meaning of *ceteris paribus* is other things being equal, so that is the assumption that is the basic assumption we follow for all of our theory all of our principle. Then the second assumption comes as the economic rationality and here rationality implies basically acting objectively keeping in view the end and means objective and the constant.

So, if layman understanding rationality is one where not biased for anything rather, we are unbiased and keeping the object in mind, we take a decision or take a activity. So, it implies acting objectively keeping in view of the end and means and the objective and the constant.

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Managerial Economics

Economic Rationality

- Economics assume rationality on the parts of its subject like consumer, producer and seller.
- Economic rationality means economic agents see feasible, known and alternative course of action, rank them on priority and choose the one which is highest in ranking order.

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It generally in economics, we assume the rationality on the part of subjects like all the economic agent, that is consumer producer and seller form or the economy as a whole. So, economic rationality means economic agents see feasible known and alternative course of action, and rank them on priority and choose the one which is highest in the ranking order. So, rationality is one where if you look at the process, if you define the process first the economic agent has to see, what is the feasible course of action that is known to them.


What is the alternative course of action then, they will rank them on the basis of priority basis and they will choose that as the option that is highest in the ranking order and that is generally known as the economic rationality.

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Managerial Economics

Review of Economic Terms

- **Resources** are factors of production or inputs.
 - Examples:
 - Land
 - Labor
 - Capital
 - Entrepreneurship

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Then we will talk about resources, there are mainly four factors of production or the four resources that is used in economics; that is one is land for any production process these are the factory production and these are land, labor, capital and entrepreneurship.

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Managerial Economics

Review of Economic Terms

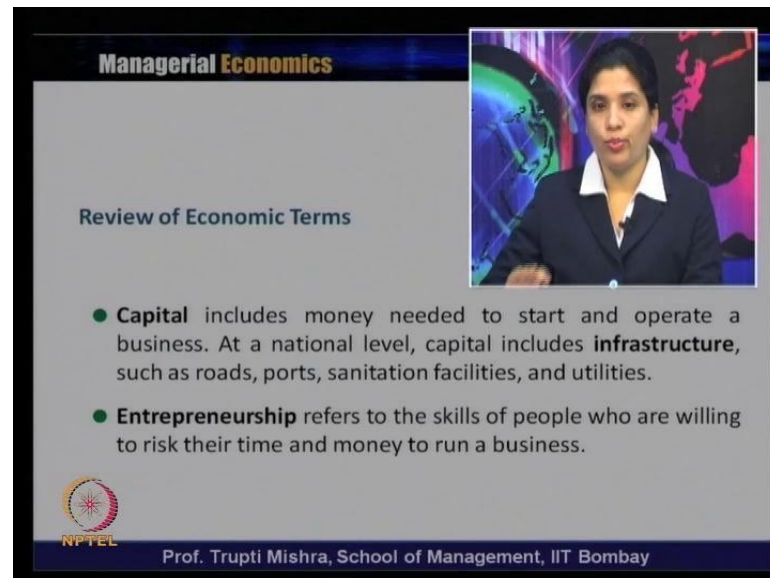
- **Land** refers to everything on Earth that is in its natural state, or Earth's natural resources.
- **Labor** refers to all the people who work in the economy.

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So, land refers to everything on earth that is in its natural state or earth's natural resources labour refers to all the people who work in the economy, whether they are skilled, whether they are unskilled and the accordingly the remuneration for both of them changes. So, for the skilled we will always say salary for unskilled labour we always say wages. And land refers to

everything on the earth that is in the natural state or earth's natural resources. However the definition of the land changes when the reclamation is also done. So, that is also to be added in the in the possible list of the land.

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Managerial Economics

Review of Economic Terms

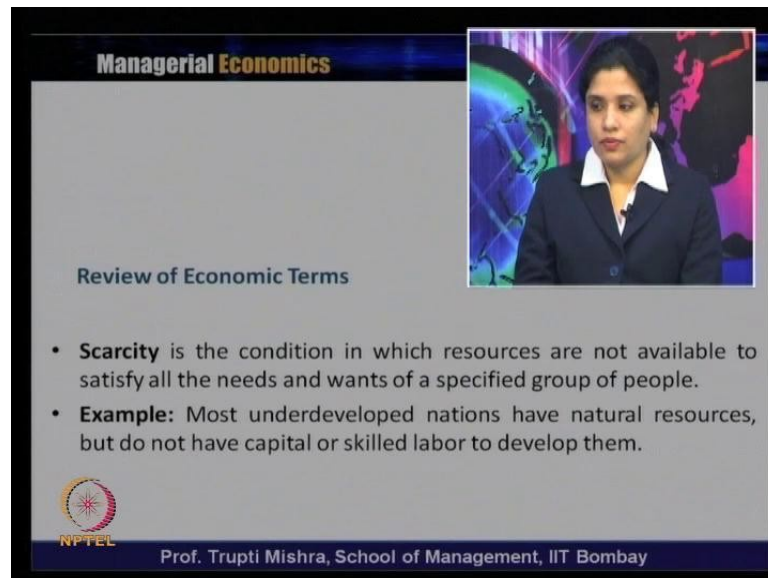
- **Capital** includes money needed to start and operate a business. At a national level, capital includes **infrastructure**, such as roads, ports, sanitation facilities, and utilities.
- **Entrepreneurship** refers to the skills of people who are willing to risk their time and money to run a business.

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Then capital it includes money needed to start an operate business at a national level capital includes infrastructure such as roads ports sanitation facilities and utility services. And also in the industry level or firm level even machine can be consider as a capital, because they are also one kind of infrastructure to produce the goods and services. Then the last factor of production is entrepreneurship it refers to the skills of people who are willing to risk their time and money to run a business; so manpower uses of skill and their time, and money to run the business that is typical known as the entrepreneurship.


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Managerial Economics

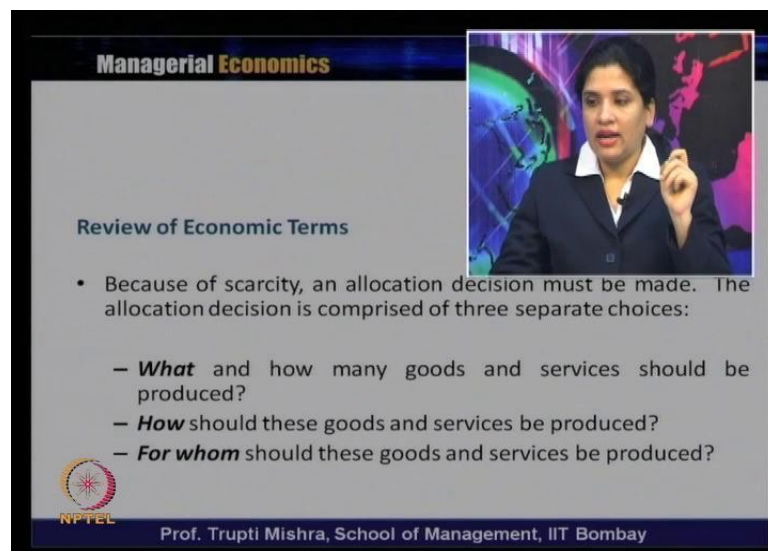
Review of Economic Terms

- **Scarcity** is the condition in which resources are not available to satisfy all the needs and wants of a specified group of people.
- **Example:** Most underdeveloped nations have natural resources, but do not have capital or skilled labor to develop them.

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So, we know that there is a scarcity and what is scarcity scarcity is a condition in which resources are not available to satisfy all the needs and wants of a specified group of people. And if you look at the most of the under developed nation have natural resources, but do not have the capital or skilled labour to develop them and that is why there is a scarcity.


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Managerial Economics

Review of Economic Terms

- Because of scarcity, an allocation decision must be made. The allocation decision is comprised of three separate choices:
 - **What** and how many goods and services should be produced?
 - **How** should these goods and services be produced?
 - **For whom** should these goods and services be produced?

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And since there is a scarcity the the allocation decision must be made and what is the allocation decision? It comprise of the three separate choices that is what and how many

goods and services should be produced, how should these goods and services be produced and for whom these goods and services be produced.

So, what to produce and how to produce and for whom to produce are three basic allocation problems or the three-basic question, that is generally known as the three basic economic problem of the that is one, what to produce, second is how to produce and third is for whom to produce.

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Managerial Economics

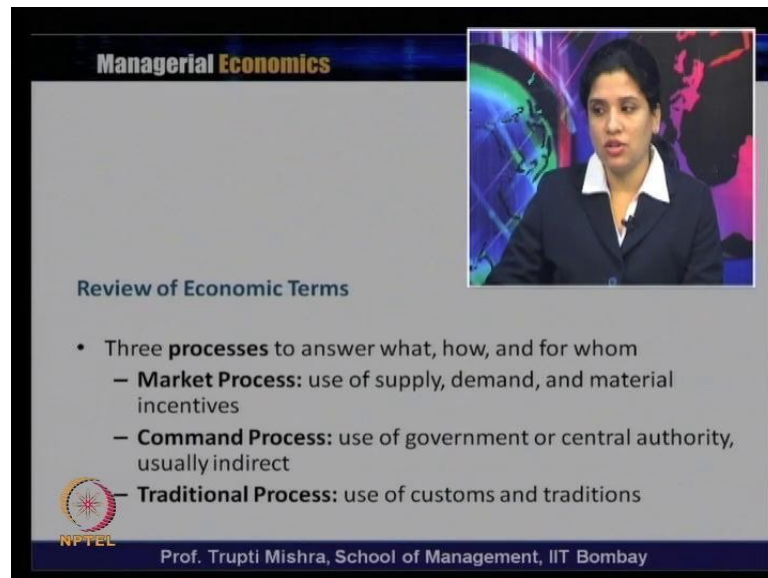
Review of Economic Terms

- Economic Decisions for the Firm
 - **What:** The product decision – begin or stop providing goods and/or services.
 - **How:** The hiring, staffing, procurement, and capital budgeting decisions.
 - **For whom:** The market segmentation decision – targeting the customers most likely to purchase.

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On this basis on these three basic the economic decision for the firm is dependent, typically when it comes to what it is about the product decision of the firm, whether to begin the production, whether to stop providing goods and services. How the hiring staffing procurement and capital budgeting decision and for whom the market segmentation decision targeting the customers most likely to purchase. So, what consider to the product decision of the firm how is basically the hiring staffing procurement capital budgeting decision. And for whom also the market segment decision that is targeting the customer who are the end users to purchase these goods.


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Managerial Economics

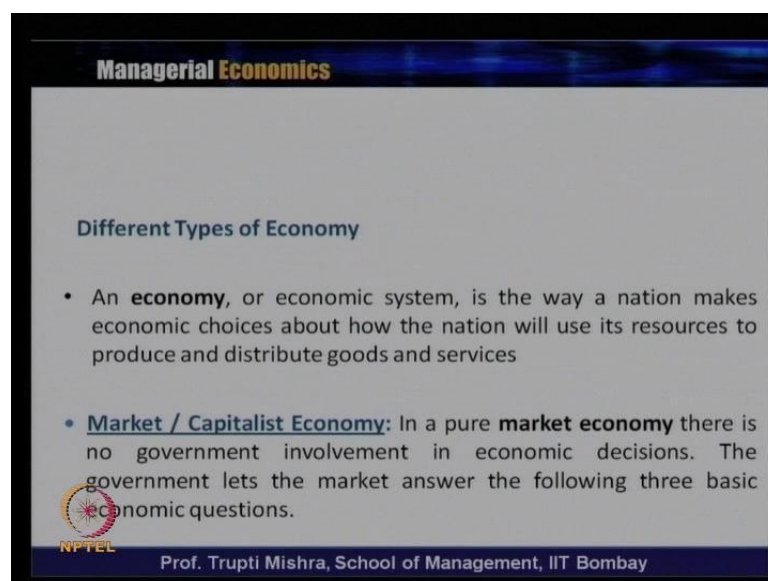
Review of Economic Terms

- Three **processes** to answer what, how, and for whom
 - **Market Process:** use of supply, demand, and material incentives
 - **Command Process:** use of government or central authority, usually indirect
 - **Traditional Process:** use of customs and traditions

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Now, from here there are three processes to answer these how what and for whom. One is the market process here generally the use of supply, demand forces and material incentives to answer for these what how and for whom. In the command process, there is the use of government or central authority, usually indirect process and traditional process, when there is a use of customs and traditions to decide for what how and for whom.


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Managerial Economics

Different Types of Economy

- An **economy**, or economic system, is the way a nation makes economic choices about how the nation will use its resources to produce and distribute goods and services
- **Market / Capitalist Economy:** In a pure **market economy** there is no government involvement in economic decisions. The government lets the market answer the following three basic economic questions.

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On the basis of three processes, generally we can define the different types of economy and what is the economy an economy, or economic system, is the way a nation makes economic

choices about how the nation will use its resources to produce and distribute goods and services. So, from here the first kind of economic come is market and capitalist economy and in a pure market economy there is no government involvement in economic decisions. The government lets the market answer the following three economic questions that is what produce how to produce and for whom to produce.

So, in a market economy there is no government involvement this is also known as the capitalistic economy; generally, the free hand principle of the individual and principle works here, the market forces correct imbalance itself, whenever it is required.

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Managerial Economics

Different Types of Economy

- **Market / Capitalist Economy:**
 - **What?** Consumers decide what should be produced in a market economy through the purchases they make.
 - **How?** Production is left entirely up to businesses. Businesses must be competitive in such an economy and produce quality products at lower prices than their competitors.

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The thus second in the market capitalistic economics how the what is decided, the consumer decides what should be produced in the market economy through the purchase they make. So, the consumer decides what to produce because ultimately they are end user.

How to produce the production is left entirely up to business businesses must be competitive in such economy and produce quality products at lower prices than their competitors. And for whom typically in a market economy the people who have more money are able to buy more goods and services.

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Managerial Economics

Different Types of Economy

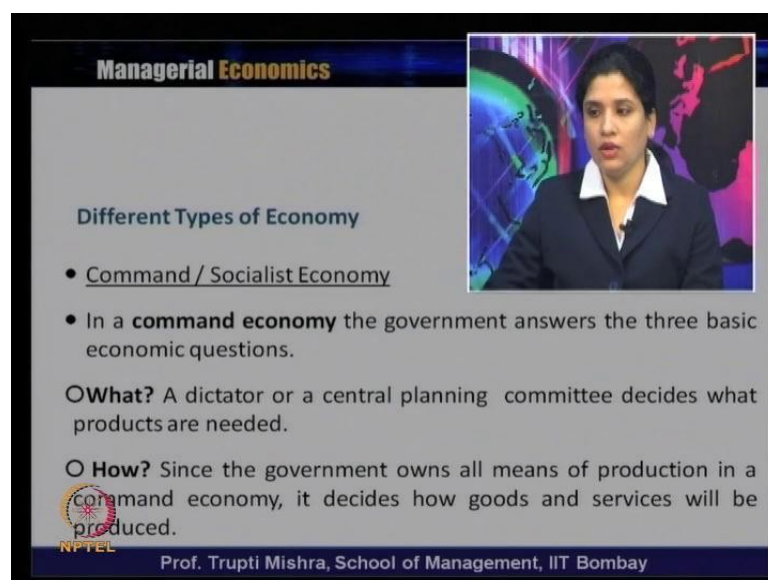
- **Market / Capitalist Economy:**
- **For whom?** In a market economy, the people who have more money are able to buy more goods and services.
- Based on Adam Smith's invisible hand principle
- Examples: USA / European countries

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And typically the market and capitalistic economy based on the Adam Smith invisible hand principle and typical example of market and capitalistic economy is USA and the European countries.


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Managerial Economics

Different Types of Economy

- **Command / Socialist Economy**
- In a **command economy** the government answers the three basic economic questions.
- **What?** A dictator or a central planning committee decides what products are needed.
- **How?** Since the government owns all means of production in a command economy, it decides how goods and services will be produced.

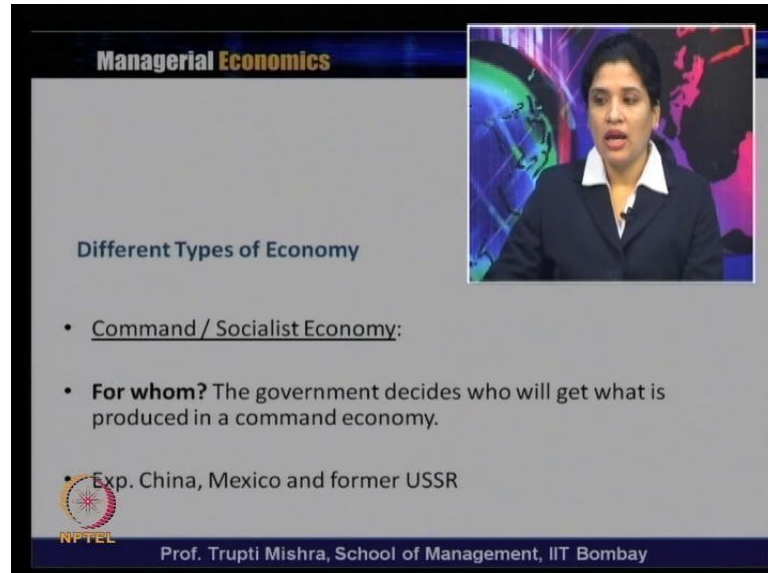
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Then the second kind of economy is command and capitalist economy in the command economy the government answers the three basic economic questions, that is what a dictator or a central planning committee decides what products are needed. How since the

government owns all means of production in a command economy it decides how goods and services will be produced.

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The slide is titled "Managerial Economics" and features a video inset of a woman speaking. The main content is a list of points under the heading "Different Types of Economy".

- Command / Socialist Economy:
- **For whom?** The government decides who will get what is produced in a command economy.
- Exp. China, Mexico and former USSR

At the bottom, there is an NPTEL logo and the text "Prof. Trupti Mishra, School of Management, IIT Bombay".

And for whom the government decides, who will get what is produced in the command economy. And typical examples of command and socialist economy are china Mexico and former USSR, what is the essential difference between the market or capitalistic economy, command and socialistic economy in market and capitalistic economy, there is absence of government intervention the market forces is free the invisible hand works.

The market forces decides or the consumer producer decides the what to produce, how to produce and for whom to produce; whereas in case of socialistic economy or the socialistic economy or the command economy generally the authority or the government means all the productive resources.


And generally they directs how the resources has to be used what to be produced and finally, who is going to consume or who is going to purchase these products. The typical example is the china then in between these two they are too extreme one is capitalistic economy entirely free command economy or the socialist economy that is entirely restricted through the authority or through the government.

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Managerial Economics

Different Types of Economy

- Mixed Economy: Private sector is allowed to use free market within the broader political and economic policy framework, public sector reserves certain trade / industry / services / activities
- Example : India.

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So, in between these two we get the mixed economy and mixed economy is particularly here it is the mix of the capitalist economy and the socialist economy. Here the private sector is allowed to use free market within the broader political and economic policy framework; public sector reserves certain trade or industry or services or activities. So, here some of the sector is guided by the government restricted by the government some of the sector is given to the to private sector and they have to add a whatever the policy framework they have to add a what are the rules and regulations. So, part of the sector goes to private, part of the sector goes to restrict by the government. The typical example is India, India generally known for the kind of economic structure that follows that is mixed economy.

So, to summarize whatever we discussed today, we discussed that how generally the managerial economics emerge in the, because in the managerial decision problem. The managerial decision problem can be solved with the help of the concept from economic theory that is from the micro economic macroeconomics.

And using the decision tools, that is statistical tool, mathematical tool and econometric tool and that generally used to solve of the managerial decision problem that way they get the optimal solution. Then we talked about what are the challenges the manager faces and from there if you look at the three basic problems that is what to produce how to produce and for whom to produce; that is dealt with the three different kind of economy the different kind of processes. And also, we talked about two basic assumption that its economic rationality and the ceteris paribus.

And along with it also the whatever was the simple understanding of factor of production or the inputs what gets used in the production. So, we will continue our discussion on reviewing the basic economic terms in the next session also. So, next session we will talk about opportunity cost, the importance of profit or the concept of profit that is economic profit, accounting profit and also the marginal and incremental analysis. And finally, we will see the model on economy how there is a inter relationship between the sector how the resources flow from one sector to another and how the income flow from the one sector of the economy to the another sector.