

**Economics, Management and Entrepreneurship**  
**Prof. Pratap K. J. Mohapatra**  
**Department of Industrial Engineering & Management**  
**Indian Institute of Technology – Kharagpur**

**Lecture – 01**  
**Introduction**

Hello, Good morning. I am Pratap Kumar Jagadev Mohapatra in short Pratap K. J. Mohapatra, professor department of Industrial Engineering and Management, IIT Kharagpur. I shall be giving to you a series of lectures on Economics, Management, and Entrepreneurship. It will be nearly 40 lectures in a row and today I will be dealing only with an introduction to the subject.

**(Refer Slide Time: 01:02)**

## DEFINITIONS

- **Economics** is that aspect of social science that analyzes the production, distribution, and consumption of goods and services.
- **Management** is the act of getting people together to accomplish desired goals and objectives using available resources efficiently and effectively.
- **Entrepreneurship** is the professional application of knowledge, skills, and competencies of and/or of monetizing a new idea, by an individual or a set of people by launching an enterprise de novo or diversifying from an existing one, thus to pursue growth while generating wealth, employment, and social good.



First, let us understand how economics, management, and Entrepreneurship they are related with each other. Economics broadly deals with the aspect of social science that analyzes various (()) (01:25) of production, distribution, and consumption of goods and services. It is a discipline that has developed over a period of nearly 4 centuries and similarly management is also a very broad subject that is developed over a period of nearly 100 years.

And it is in short the act of getting people together to accomplish desired goals and objectives using available resources efficiently and effectively. Both economics and management of various branches, different branches for example, we know political economics, environmental economics, social economics, and similarly in management we know of production management,

operations management, personal management, financial management, marketing management, service management, and so on and so forth.

We would like to basically take certain aspects of economics and management that are useful for entrepreneurship. Now what is entrepreneurship? Entrepreneurship is a professional application of knowledge, skills, and competencies and or of monetizing a new idea by an individual or a set of people by launching an enterprise de novo or diversifying from an existing one, thus to pursue growth while generating wealth, employment, and social good.

Now this is a definition that is given by national knowledge commission of our country. Now what are the key terms here? Basically entrepreneurship is an act of being an entrepreneur and an entrepreneur is one who starts a new enterprise or as it is told here, he can even diversify an existing enterprise. The whole idea here is to apply current knowledge skills and competencies. While generating wealth, generating employment, and generating goods and services for the benefit of the society.

So in this set of subjects we shall see to be a successful entrepreneur what role economics and management play and therefore we will try to put together the very fundamental aspects of entrepreneurship and how those aspects can be helped that the knowledge of economics and management.

**(Refer Slide Time: 06:01)**

# OBJECTIVES

To enable a student to appreciate the role of economics and management in starting and running a new enterprise.

Now what is the basic objective of this subject? It is basically to enable a student to appreciate the role of economics and management in not only starting a new enterprise, but also running it successfully in terms of profit and growth.

**(Refer Slide Time: 06:46)**

## SCOPE

- Principles of economics will be limited to those applied at a firm level.
- Principles of management will be limited to those applied to decision making at a firm level.
- Some aspects of entrepreneurship, such as creativity and IT, will not be covered to a great extent.
- The coverage will be introductory in nature.



Now we will limit the scope of our lectures to the following. One, we shall limit the aspects of economics that we will cover to those aspects that are applied only at a firm level that means that we will not be discussing macroeconomics that talks about countries G and P, national income, so on and so forth. Neither shall be discussing about an environmental economics that deals with economics of pollution and so on and so forth.


We shall only be constraining ourselves to those principals of economics that are directly applicable to decision making at an enterprise level. Second, principals of management will be limited to those that are applied to decision making at a firm level. Once again management can be at a national level, can be at an industry level, but we shall be discussing only to 1 enterprise level and that to an enterprise that is small in size.

Now certain aspects of entrepreneurship we will not be able to cover because of constraints of time, aspects of creativity, innovation, information technology, and its role including computerization, development of software support, these aspects we will not be able to cover, but we shall surely be covering a lot of other aspects that will be required for an entrepreneur to start a new enterprise.

Also each topic of economics and management that we will discuss will be also at a relatively introductory level because each subject is, say for example: Marketing management can run into 40 hours whereas we will cover it in just 1 hour. Therefore, we will try to bring in different aspects of the whole arena of a subject to only 1 or 2 lectures. So these are broadly the limitations and therefore the scope that we would like to say right at the beginning now.

**(Refer Slide Time: 10:31)**

## SYLLABUS

- Role of Economics and Management in Entrepreneurship
- Demand and Supply
- Production
- Cost Analysis
- Relevant Information and Special Decisions
- Cost Allocation
- Budgets
- Capital Budgeting
- Product Costing
- Overhead Application
-  Basic Financial Accounting

Today, we shall be giving a glimpse of the topics that we shall be covering in course of our 40 lectures in the syllabus. The first of course is the role of economics and management in

entrepreneurship. As I told you entrepreneurship basically is the act of being an entrepreneur and an entrepreneur basically starts a new business or a new enterprise or diversifies an existing enterprise in new directions, therefore cost benefit analysis is an extremely important thing for an entrepreneur and that is where the knowledge of economics comes into play.

So we will be discussing different aspects of microeconomics. Normally, microeconomics is defined as a branch of economics that deals with firm level decision making problems or enterprise level decision making problems. We will be discussing about such microeconomic problems and we shall be talking to you about various tools and techniques that are available in the area of economics that are directly useful to an entrepreneur.

Similarly, to run a business and to start a business we require certain key management skills. We will be talking about these skills. In fact, in the next, in the following subjects that are listed here in the syllabus they are nothing but different aspects of economics and management that we will cover which will form the syllabus for our course. From the economics area first we will cover a few that are listed on this particular slide and in the next slide we will be covering, listing some other topics that come from management.

Firstly, the very introductory subject of demand and supply and the determination of price. Demand for a good or a service in the market as it is determined or influenced by the price of the good or service will be called a demand function and similarly the supply function will determine or will tell how supply is created as a function of the price. So these are very simple logical skills that any entrepreneur should have.

Then we go to production. In production, basically it is a type of supply only, but here where as the demand and supply we will be talking in the entire market concept production we will consider only at a firm level and here we shall say how as price increases the profitability prices increases and production increases profitability is affected. So these aspects are basic aspects of economics, demand, supply, and production that we will take up first.

These are elements of microeconomics that are applied generally to the whole market and also to the firm. The remaining topics that are listed in the syllabus they are purely aspects of managerial economics. Now, managerial economics is a branch of economics that is applied to firm level, but directly is concerned with the managerial decision making. The first topic in this is cost analysis. Under the heading cost analysis, we shall discuss various classifications of cost.

For example, we shall to start with discuss or have a classification which is called fixed cost and variable cost. Basically we shall say that a fixed cost is that cost or those costs that do not change with the volume of activity whereas a variable cost changes its values as the volume of activity changes. This is 1 classification of cost. Another classification of cost could be direct cost and indirect cost. A product that is manufactured in a factory is to this the direct cost could be the labour cost and the material cost and the energy cost.

To some extent even machine cost whereas indirect cost could be the managerial costs of managers, cost of supervision, and service cost that is given by others for example maintenance, accounting departments and so on and so forth. So we will in course of cost analysis look at different types of costs, different classifications of cost and how this should be considered in different ways. The applications of this knowledge on cost will be used in the next 2 topics.

The next topic is relevant information and special decisions. Now special decisions can be of different types. A single example of a special decision is a buy or make decision whether an entrepreneur should buy a part or make a part in house and sell it. This is a special decision and such special decisions require information and different types of cost, but not all costs are relevant. So at this we will try to find out among the different types of costs which costs are relevant.

And how they can be used in taking or making these special decisions such buy or make and there are various examples that we will take which will require a knowledge of cost. The next topic that we shall take is cost allocation. Cost allocation is basically supposed that we have accounting department or a maintenance department how those costs can be allocated to manufacturing department.

This is called cost allocation and we shall devote 1 lecture to such cost allocation problems. Next is how to make budgets? Budgets are important because budgets are basically plans that are made for the next year and based on those plans allocation of the sources are made. Controls are exercised and therefore budgets are extremely important. We shall talk about the master budget and different other types of budgets such as flexible budgets and so on and so forth.

A type of budgeting, which is called capital budgeting is extremely important and here we talk about the worthiness or economic justification of a project which requires capital investment. Here is the area or the topic where we will be introducing to you the time value of money, the present worth considerations, and how to make comparison among different economic alternatives and how to decide which alternative is the best.

That is capital budgeting and this will engage us may be for 2 or 3 lectures. Then we come to product costing which requires overhead application. Now costing a product requires the knowledge of cost allocation, requires the knowledge of direct costing, and direct costs and indirect cost and also requires application of overheads to a particular part or a service that the enterprise is producing. So product costing and overhead application they act in a way related and we will say how overhead applications are made.

Now let us understand that if a product cost is not made very rational there is a possibility that it will show either high profit or negative profit or loss therefore rational costing of a product or a service is important. We shall devote a few lectures on basic financial accounting. You might have had of double entry book keeping systems, ledgers, financial statements such as balance sheet and profit and loss statements. Now these are important to any entrepreneur. We will be giving introduction to how to keep accounts of income, expenses.

And how to summarize them and prepare balance sheet and profit and loss statement and how to analyze these financial statements. These are important considerations for any entrepreneur and therefore we shall spend 2 or 3 lectures on basic financial accounting. So as you will see the

large number of topics that I have covered that are listing on this right come from economics, but they are highly specialized to firm level needs.

And therefore we will call them managerial economics and the first 2 items demand and supply and product will be at a relatively higher level, but all others are at a firm level they are applicable.

**(Refer Slide Time: 26:03)**

## SYLLABUS (Contd.)

- Functions of Management
- Demand Forecasting
- Basic Concepts of Marketing
- Feasibility Analysis
- Financing a New Enterprise
- Plant Location and Layout
- Production Planning and Control
- Inventory Control
- Supply Chain Management
- Quality and Productivity
- Decision Making Under Certainty, Risk, and Uncertainty



Next we come to the remaining topics on this slide and as you will see all these topics are related to the area of management. Once again let me recall that these topics are directly related to new enterprises as well as to existing enterprises, but existing enterprises have many more other areas that we have intentionally not listed here. Only the basic function that we think are bare minimum that an entrepreneur should be aware of we have listed. The first area is functions of management.

Now management as we will see is (()) (27:10) it is supplied irrespective of the size of the enterprise, the type of the enterprise, the product that it produces whether it is producing services or goods. It is not a function of even scale or production; the basic functions remain the same. We will discuss about such functions like planning coordinating, motivating, and controlling so different aspects of planning, coordinating, or organizing, motivating, and controlling, we will discuss in detail.



Now the least that I have given here we may not follow rigorously in the same sequence. We may change the sequence, but I had tried to write them down here considering the way an entrepreneur would like them to be listed. For example, an entrepreneur would like to first of all consider a product or a service and try to know whether for such a product or service there is a demand in the market.

Therefore, it has to consider methods and tools that are popularly followed in forecasting demand and in making an analysis of the market. So these 2 subjects, these 2 topics I have listed in the beginning and thereafter I have written down other areas. Now the next is feasibility analysis. Now any new enterprise or an entrepreneur must make a feasibility analysis. Feasibility not only economic feasibility that is whether it will be cost effective.

Whether the returns on investment will be good how long it will take, but also feasibility in terms of technology in terms of environmental and social conditions or social constraints. Technology feasibility means that the entrepreneur should be able to produce the goods and services. Whether you can sell the products in the market and if so whether the revenue so generated out of the sales will meet the investment made in time that you consider good.

So, feasibility analysis looks at technological feasibility, economic feasibility and such other constraints that are imposed by the society and the government. But feasibility analysis also requires 1 to estimate about the need of funds, the extent of funds that are needed, the ways funds are to be collected from the market so these aspects will be covered in next topic which is financing a new enterprise.

There are different ways by which a new enterprise can be financed or funded. One is spending somebody's own money and that is quite difficult not everybody can do it. So, one goes for loans from financial institutions. Such venture capitals are now given with low interest by various financial institutions in the public sector. Also there is a possibility for hiring the services. So various aspects of financing a new enterprise we shall consider here.

Next is plant location and layout. Plant location once an entrepreneur decides to have a product the next question is where should the plant or the factory or the unit will be located and how should be the layout of the facilities in that plant. So plant location factors are many. There are 2 important theories one is proximity to the market so that you can sell your goods quickly. The other is proximity to the raw material sources that means near to the source.

Where the raw materials required for making the products of the services are available, but apart from these visible factors or market are nearness to market or nearness to the raw material sources. There are other considerations. The labour for example whether you have sufficient skills of man power whom you will deploy to do the work are available there or whether depending on the type of production system that we will have whether energy sources are available.

Power is available at a low price whether water is available in plenty so depending on those specific features that are required for manufacturing or producing the goods and services you will have to also consider these aspects. So this location factors we will take up in plant location. The next is how the facilities that are required to manufacture the goods or services will be lead out in the plant which is known normally as facilities layout.

Now here in the layout we will basically try to minimize the transportation cost. The cost of transportation of goods from 1 machine to another machine, or whether in a line production system, for example the work stations are balanced so that there is no delay. Now these aspects of plant location and layout we shall be taking up in some detail. These are basically fixed costs. Once a plant is located or once the facilities are laid out in a particular fashion the cost associated with this layout or with this location are fixed.

So this is almost a 1-time decision and therefore great care has to be taken to see that the plant location and facilities layout are decided on a very, very scientific basis. Next we shall talk about production planning and control. Now production planning and control is a very important topic basically you try to minimize the manufacturing cost by reducing delays. Since that you procure

should be utilized as much as possible without to waiting for the jobs or the jobs that are processed should not wait because the machine is busy.

So these aspects are preplanned and in operation they are controlled. So this is called PPC, production planning and control. So we shall devote on a 2 lectures on production planning and control aspects particularly giving stress on visual or graphical (( )) (39:02). We will also talk about inventory control and supplies and management. Inventory control basically inventory can be of various types, raw material inventory, in process inventory, finish products inventory, spare parts inventory, these are basic classifications of inventory, but any inventory is an ideal resource.

Therefore, we should try to minimize the inventory as much as possible. However, inventory has also a positive influence on production. When inventory position is 0 then production will suffer if raw material inventory position is 0 or if finish product inventory is 0 then we may lose a particular sale. IF spare parts inventory is 0 then a machine will not be able to work and therefore it cannot produce so the production will suffer.

Therefore, inventory has got both a positive aspect and a negative aspect. So question therefore arises what should be the level of inventory that a company should aim at. So this is where we shall talk about basic methods of inventory control both qualitative and quantitative. We will make classification of inventory into A, B, and C. A class items are normally expensive items, B are not so expensive, and C are least expensive items so for very expensive items.

We might like to use methods of inventory control that are based on some mathematical tools and techniques whereas for others we may not use such sophisticated tools and techniques. Now closely related with inventory control is the concept of supplies and management. Today, we are talking about just in time inventory control meaning that inventory position should be zero, the supply will be made just when we need it.

Now that is possible if we have a strong link or a strong collaboration with the suppliers. Now supply chain management basically talks about how to manage. A complete supplies from the

raw material source of raw material to the company and from the company to the customer. Now from the supplier of raw material to the company and from the company to the customer is a complete supply chain.

The first is the inbound supply chain and the second is out-bound supply chain. Out bound supply chain will be is basically distribution aspects, the in-bound supply chain deals with the procurement aspects. So in supply chain management we shall be discussing both the procurement and the in-bound logistics and in the out-bound supply chain we shall be talking about distribution of goods and services and out-bound logistics and the information flow that is required in a supply chain.

Also in the supply chain management we shall consider such issues like inventory in a supply chain, this is pipeline inventory basically the collaboration that each agent in a supply chain should have so as to maximize the delivery by ensuring quality and timeliness. So these are aspects of supplies and management that we shall discuss. We shall also discuss quality and productivity.

These are essential for any enterprise to be successful. Unless a product is of good quality a customer will not take it. Therefore, quality must be ensured. Now ensuring quality requires one to ensure the quality of the design of the product and the way such designs are translated in the manufacturing process and finally the way it is sent to the customer. Therefore, quality is to be embedded in the complete supply chain, raw material quality because raw material is a direct input to the finish products, the design of the product, where the tolerance limits are decided.

The manufacturing process quality and the final quality of acceptance by the customer. So we shall be talking about different tools of quality concepts of total quality management, concept of quality circles in enterprises and concepts of control charts and acceptance sampling. We also will discuss productivity as you will see productivity is different from production. Productivity is how efficiently one produces goods with respect to the input resources used that is productivity which means productivity can be represented as  $\text{output/input}$  that directly goes to the output.

That is productivity. Now here productivity here the denominator which is the input resources can be many. As you know raw material is an input resource. Energy is an input resource. Labour is an input resource. Machine is an input resource. Therefore, they have different units of measure so putting them altogether means that we require 1 unit of measure and usually that unit of measure is rupees how much amount one has spent in labour in raw material resource.

And so on and so forth in making 1 unit of output. Now that is total productivity. Sometimes factor productivities are also estimated. Factor productivity means one assumes that the denominator contains only one input resource. For example, only labour or only material so which means that the resulting productivity figure will not indicate the total productivity figure, it will indicate instead only error factor productivity that is labour productivity or energy productivity or machine productivity etc.

Then certain things that are not listed here, but I definitely take them in course of my lectures will be 1 product design, process design, work system design. These are important aspects as I have already told product design is important because the new features that are driven here would like to invent in the product and the way this product should actually be designed should be decided much before the production starts.

These aspects we will cover in product design. In process design we shall cover how the different processes required to translate the design into something visible should be planned and finally we shall also talk about the work system design and measurement where we will talk about different methods of studying the work methods and measuring in terms of time these work methods.

Another aspect that we shall study which I have not listed here is maintenance of equipment. In particular, we shall be talking about preventive maintenance to give you an idea of how the facilities should be maintained so that before it breaks down the entrepreneur can take preventive action such that this accidental is random breakdown does not occur. The last topic that I have listed is decision making under certainty, risk, and uncertainty.

These are different quantitative tools that are available now to decide under different situations. If the situations are for example known, they are called certainty conditions that means the outcomes are completely known with certainty then we can apply certain tools and techniques. Risks basically means that although the outcomes are uncertain we can represent it in terms of probabilities.

So decision making can be also made under limited information such as risk where we can assign certain probabilities to it whereas there are situations where we cannot say anything about the outcomes and not about any probability. These are uncertain situations. So we will try to also expose to use to certain mathematical tools and techniques. That are used for decision making under these certainty, risks, and uncertainty conditions.

So friends, as I told you, the subject is basically exposing you to the fundamental aspects of economics and management that are directly applicable to an entrepreneur who wishes to start a new business or expand an existing business in new directions. Thank you very much.