Managerial Economics
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Lecture - 61
Oligopoly

We will continue our discussion on theory of market structure, and if you remember in the last class, we discussed about the monopolistic competition, which is an ideal mix of monopoly and perfect competitive market structure. So, in the last class, we discussed about the price, and output determination in the short run and in the long run; and if you look at its quite similar to the monopoly situation, because we have a downward slopping demand curve and downward slopping average revenue and marginal revenue curve.

Then, we discussed about a situation that, how in case of monopolistic and also in monopoly, there is a evidence of excess capacity, because the producer or the firm they generally operates in the downward slopping portion of the average cost, and not at the minimum cost, we generally happen in case of a perfect competitive output. So, there is a big gap between the output level, what the monopolistic firms are producing, and what the competitive firms they are producing and this difference between the competitive output and the monopolistic output is generally known as the excess capacity.

If you look at there is one significant feature of the monopolistic competition is that product differentiation, there are large number of firms, but each firm produce a product which is different from the other product, and that is the reason, it will find that there is non-price competition also in case of monopolistic competition.

And that non-price competition; what is the basis for that; the basis for that is the product differentiation; the basis for that is the advertising; the basis for that for the innovation. So, we will continue our discussion on that line that, if there is a non-price competition on for that basis is, and the basis for that is on the basis of advertising cost, and on the basis of the innovation; what is the cost associated with that; what is the selling cost associated with that; and when we add that in the production cost, whether there is a change in the equilibrium output; what is the gap that we will see.

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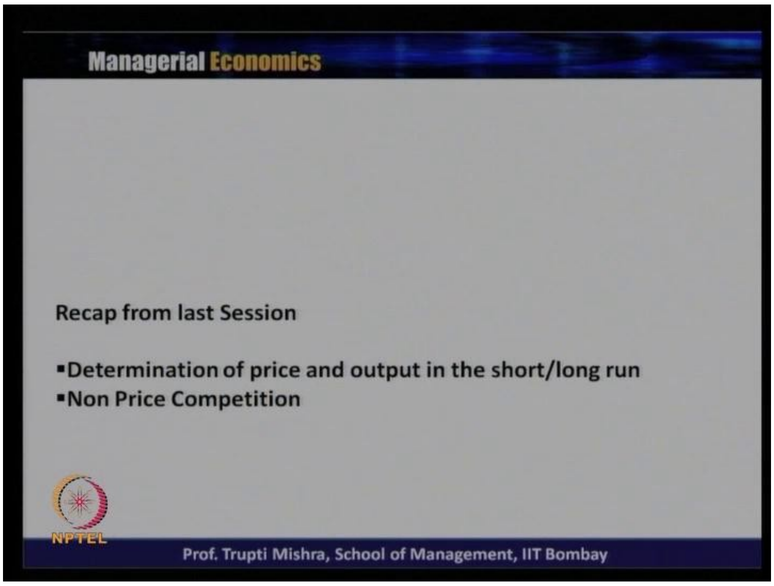

Then, we will continue our discussion on the Chamberlin's, the entire monopolistic competition, if you look at that is given by Chamberlin, and we will see, what are the short comings of this Chamberlin model, and then we will move into the; a new kind of oligopoly new kind of market structure, which is oligopoly, and if it is if you look at this is the most realistic market structure in this present day holds a situation, and we will typically in this session, we will talk about the non-collusive models of oligopoly; we will talk about cornered model; we will talk about the sweezy model and we will talk about the stacklberg model.

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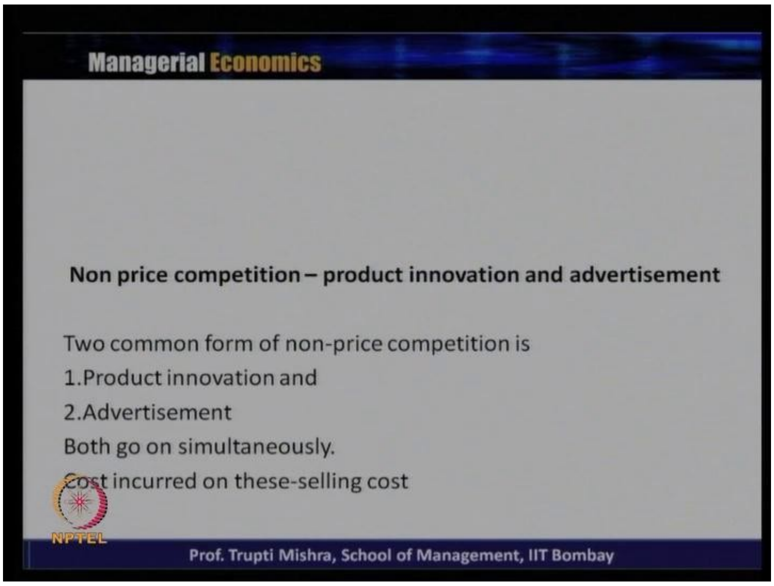

So, to start with, if you remember monopolistic competition is in case of monopolistic market structure, there is also evidence of non-price competition, and two common form of non-price competition is product innovation and advertisement. Both go on simultaneously, if the innovation takes place also there is a need for advertisement, and if there is a advertisement, or its as a innovation, there is a cost incur on this. And typically that is known as the selling cost, if it is advertisement, and if it is product innovation also there is a cost with the R and D, which also comes as a part of the selling cost.

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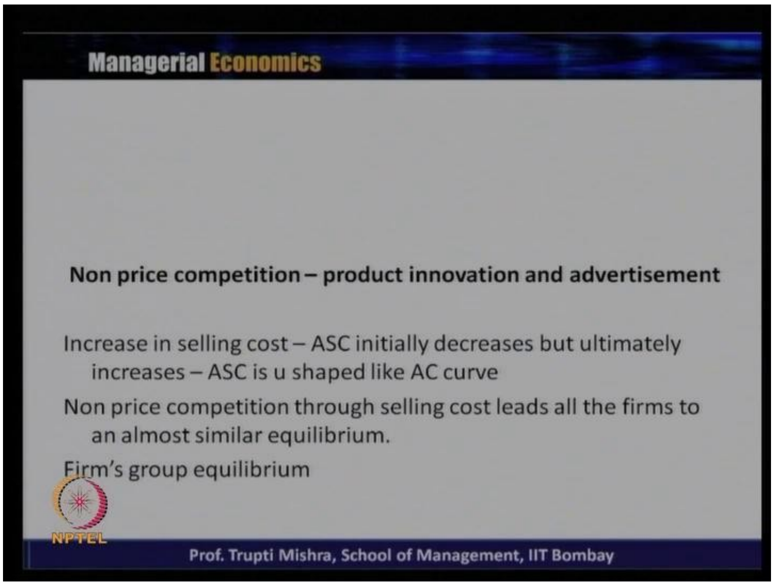

So, whenever this non-price competition takes place the firms bounds it to the innovation, the product innovation, and whenever the innovation is there, there is a need for this advertisement, both this activity involve the cost. Whenever there is a increase in the selling cost that leads to the fact that the average selling cost initially decreases, but ultimately increases, and that is the reason, we will find average selling cost is u shape like the average cost curve.

So, if you remember the shape of average cost, initially it decreases then reaches the minimum and then its increases, and generally if we give the explanation for u shape average cost is the economy of scale, initially the firm get economy of scale that is why it reduces, then it reaches the minimum, and beyond that the firm starts getting the none, the diseconomy of scale and that is why its increases, the same thing happen the same shape is also for the average selling cost, and if you look at the non-price competition through selling cost leads all the firm to almost an similar equilibrium.

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And there the firm leads to a group equilibrium, and before getting into the group equilibrium, we will see that, how this average selling cost generally added in the average product cost, and if it is not being added in the average product cost, whether there is a difference in the equilibrium or not. So, to start with we will see, we have, we will take quantity over here, we can take a average product cost, average selling cost, average revenue and marginal revenue; this is our for simplicity, we have taken average revenue is equal to the marginal revenue; this is our average product cost; this is average product cost plus average selling cost, and this is the point where again this is average product cost, and when the selling cost increases; this is average selling cost 2.

So, we get a point here; we get a point here; we get a point here; initially, if you take only the average product cost, how we decide the profit maximizing level of output, may be or how you decide the output, we do not have marginal cost over here, assume that the average product cost is equal to the MR, or average product cost equal to the AR, and we will find out this is the Q_1 level of the output.

Now, we have one more level of output Q_2; we have one more level of output Q_3, and if you look at we have may be one more level here that is Q_4. Now, what is the essential difference between $Q_1, Q_2, Q_3$and Q_4, in the first case, when the average product cost is already there, may be the product output level is getting produces Q 1, when we are adding the average product cost, and the average selling cost over here, the output level is Q_2, and also it can go up to this point, here because this is where we get one more equality.

But eventually, when the average selling cost incur by all the firms, that leads to increase in the average selling cost as a whole, and that is why moved from average cost to 1 to average cost 2, and with that the average cost as a whole, which is a combination of the average product cost and average selling cost it increases and finally, they place in a particular they are tangent to this average revenue and marginal revenue curve, and if you look at this is the full capacity, where the firm is operating this is the Q_3 level of output, and this is the minimum cost looking together the average product cost and average selling cost.

So, it is like the point, what we discussed earlier also that non-price competition through selling cost leads all the firm to almost an similar equilibrium, because all the firms they have this component over here, may be someone start its now, someone start it with reaction to the rivals, but in general all the firms, they generally incur some amount the selling cost, and this is since, there is a selling cost component, if is there with the production cost of all the firm eventually this selling cost, the increase in the selling cost or though selling cost lead all the leads, all the firms to an almost similar kind of equilibrium or maybe, we can say the equilibrium, where this is minimum or the output level, where the average product cost and average. So, average selling cost is minimum.

So, if you look at this now, how this strategy works; the strategy works in a work with the point, that whenever there is a selling cost also, there is a increase in the price, and increase in the price with a justification is that this product is maybe richer than this product is qualitative than the other product, and since there is a product differentiation this strategy also works in the monopolistic competition, that you can set your own price because, you are providing a separate product; you are providing a differentiated product in the market.

Then, we will see, what may be, what is wrong or what is not acceptable to the real world, when it comes to monopolistic competition, we will see what are the criticisms associated with this Chamberlin's theory, or what are the criticisms specifically associated with this form of market structure, that is the monopolistic market competition.

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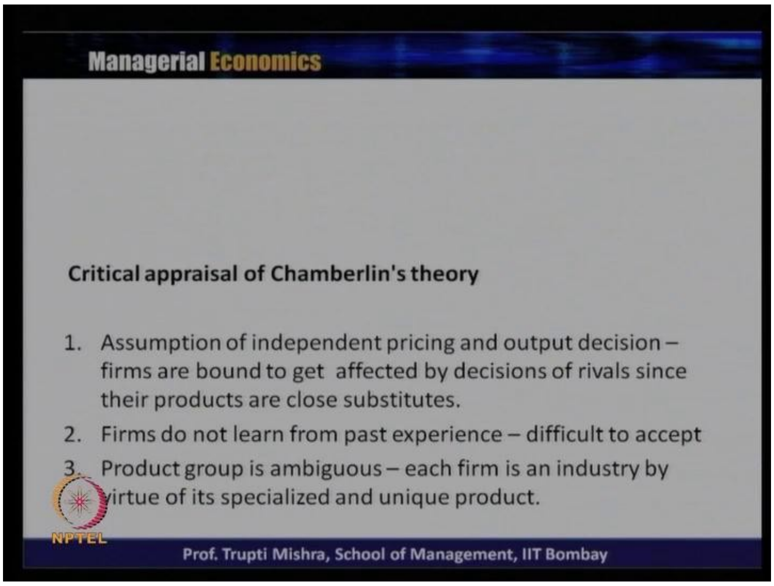

So, if you look at the there is a always a assumption of independent pricing, and output decision, and the basis for that is all the firms they are producing a differentiated product. Now, we are saying that there is no link of price and output decision of one firm with the other firm, that is what we have understood, when we have taken a basic assumption that the all the firms, they goes for independent pricing and output decision; firms are bound to get affected by the decision of rivals, since their products are close substitute; product are differentiated, but they are close substitute to each other, and that is the reason, when taking a assumption may be, when it comes to practice that typical assumption is difficult, because the products are close substitute, and the firms are they are bound to get affected by the decision of their rivals.

Then the second assumption, we say that firms do not learn from their past experience, they go on doing the same kind of mistake; they go on doing the same kind of price, and output decision, even if that went on a wrong side. So, this typical assumption is generally difficult to accept, when it comes to real world, because a manager or the entrepreneurs, it is not that they are laymen in the business, that they will not understand, if some strategy some decision is taken them into a wrong outcome still they will continue with that.

Then the product group is ambiguous, each firm is an industry by the virtue of its specialized and unique product, and within the industry again it is about talking about the product group those who are producing the similar product, or the identical kind of product its bit ambiguity is there, because each firm in an industry is the different typical in case a monopolistic competition, because each firm produce a different product from the from the product, whatever is there in the market, they are charging a price they are deciding their output on the basis of independently on the basis of on the basis or on the fact that, their product is different from the product in the market.

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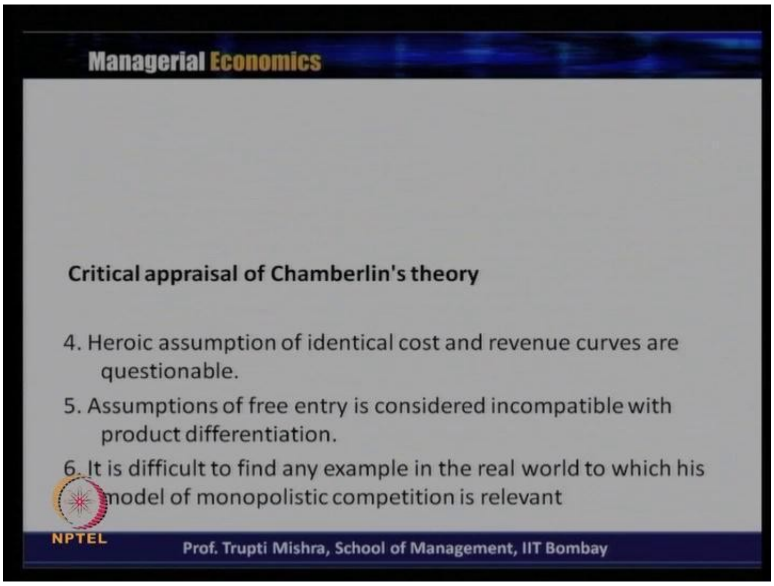

So, in this case, when you talk about a group, then there is some amount of ambiguity is always there, then there is a heroic assumption of identical cost and revenue curve for all the market, and its generally questionable, when they are producing a differentiated product; obviously, that the fact behind that they have to use the different raw material, they have to use the different technology, they have to use the different man power with a different skill set or maybe they have to use a different time line to produce it.

So, given this a diversity, when we take a assumption of identical cost and revenue curve in case of monopolistic competition, this is bit questionable, and it is difficult to also accept that, when the product is different whether the cost and the revenue condition has to be same or different.

Then there is a assumption of free entry, and we generally say that this characteristic is similar with the characteristic of a perfect competitive market structure, that there is no barrier to entry, but if you think over it, the concept of product differentiation itself create a entry, create a barrier to entry, because if any firm they want to enter into the market, and operate into the market, they have to first check their capability, whether they can provide or whether they can supply a product, which is different from the other product in the market or not.

So, in that context, if we look at product differentiation itself, it is not a case of the homogeneous product, that anyone can come and produce the same kind of product, if someone has to operate in the market, they have to also produce something different, but in the similar nature, and that is why this assumption of free entry generally consider incompatible, when it comes the; when the product is not homogeneous, when the product is differentiated.

It is difficult to find any example in the real world to which the model of monopolistic competition is relevant, but still we generally take the example of your restaurant, or we take the example of your books, or we can take the example of your DVD, or we can take the example of movies that the example of monopolistic competition like you take the example of movies, in general its similar in nature, what is the usefulness of movie, generally people they use this for their entertainment, and in the entertainment category, if you look at these are product they are similar in nature, but they are different maybe one movie comes with a philosophy; one movie comes with a comedy; one movie comes with a may be the action; one movie comes with a drama, but in general when you talk about all this movie, they are the similar product, but they are different from each other on the basis of the different from each other on the basis of the content or may be a presenting style or may be the quality associated with it.

Similarly, when you talk about a story book, when you talk about a fiction, we get fiction in the different range. So, the fiction may be again science; the fiction may be again action; the fiction will be again drama. So, when it comes to why we read the book may be fiction typically is not for its maybe not infirmity, but just to you have a series to read this when generally you read this, and may be this you do for when you have free time generally you read this. So, in this case again the usefulness of the product is same whether its action fiction, whether it is a romantic fiction, whether it is a science fiction, but when it comes to the usefulness of its theme, but when it comes to a individual product they are different from the other.

Similarly, when you talk about a restaurant generally the usefulness is that you generally go out and have food, but when it comes to the fact that whether they are different from each other or not again the question is yes, they are different from each other, but when it comes to the fulfilling the need of the consumer, they fulfill the need of the consumer, because the usefulness of the product is same there in the same range. So, closely we are not finding anything, but we can fit few of the examples as a part of the monopolistic competition.

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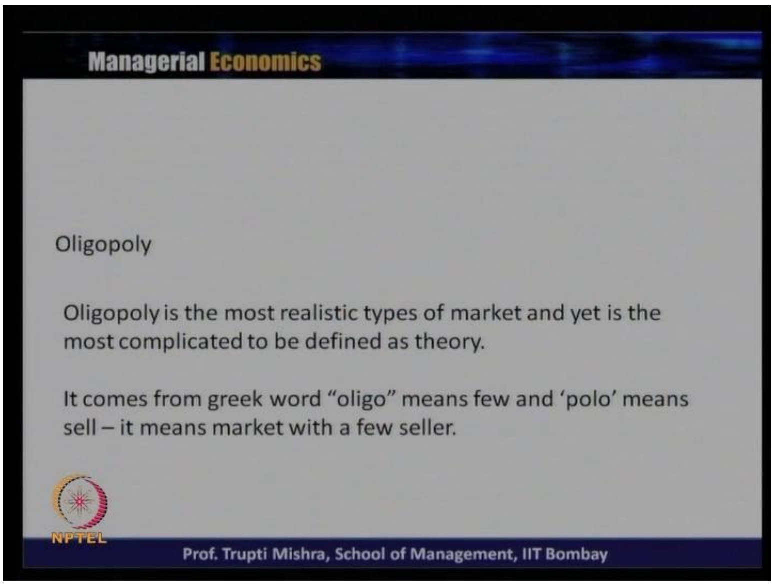

So, next we will move to a new kind of market structure, or what is last in our list that is oligopoly market structure, and if you find the most of the real world market is generally oligopoly in nature; oligopoly is the most realistic types of market, and yet it is the most complicated to be defined as theory, when it comes to theory may be we take all the model of oligopoly just taking two firms, we do never take few firms, but when it comes to the application part of it, or when it comes to the implementation of this form of market, it generally the most realistic as compared to any other kind of market structure like profit competition monopoly or monopolistic.

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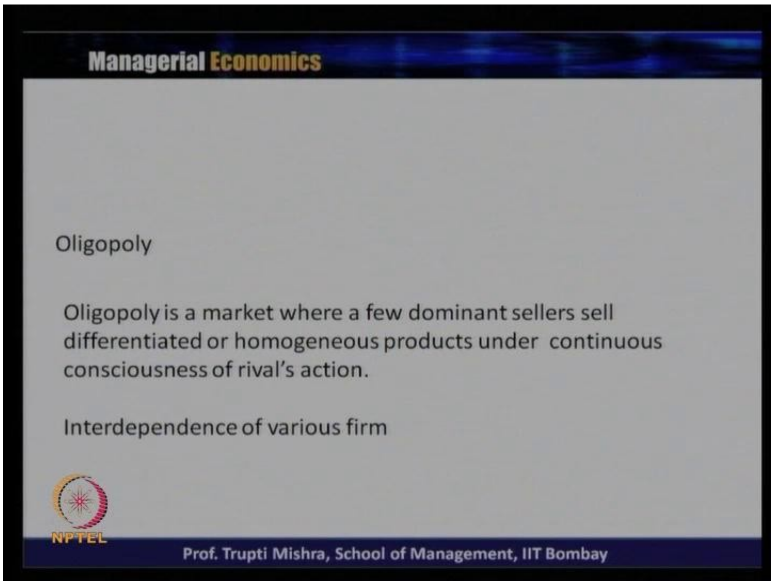

So, it comes from Greek word oligo, means few and polo means to selling. So, it means a market with few sellers is generally known as the oligopoly market. So, to say it in the not sell that oligopoly is a market with few seller; either they produce the differentiated product or homogeneous product under continuous consciousness of the rivals action.

So, here I think the main significant feature of oligopoly comes that few dominant sellers and they are under the continuous consciousness of the rival action. So, whether they produce differentiated products, or whether they produce homogeneous product for them the price output decision is always decided, what is the rivals reaction to their price and output decision, that leads to the fact that since, they consider the rivals reaction on their price and output decision, there is interdependence among the various firm in case of the oligopoly market structure.

So, there are few dominant seller, each firm either produce the homogeneous product or the differentiated product, there is they are also concerned about the consciousness of the rivals action, and there is a interdependence of the various firms typically in case of oligopoly market structure, and why this interdependence comes, because there they are reacting to the rivals action, and rivals is also reacting to their action on the price and output.

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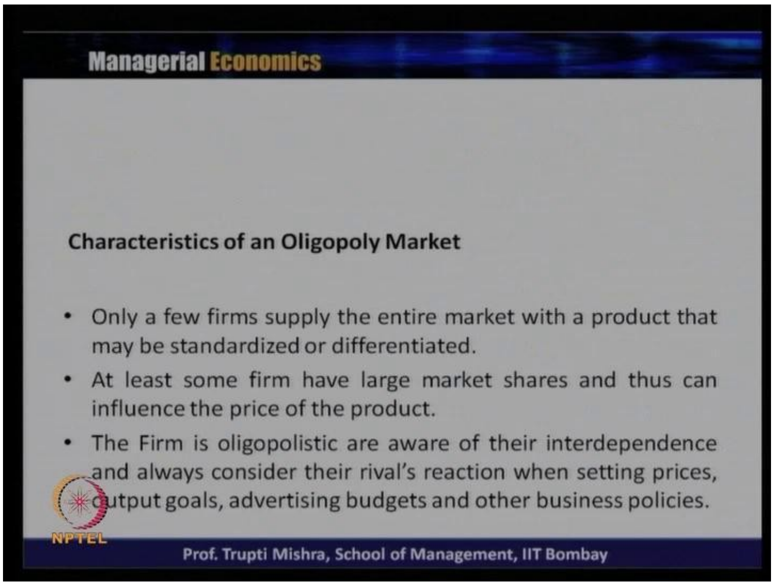

So, when it comes to the characteristic of the oligopoly market; the first characteristic is that there are few sellers. So, this is again a relative concept, whether few sellers or large seller, but in case of large seller only few of them is taking the entire market share. So, the first characteristic is only a few firms supply the entire market with a product that may be standardized or that may be differentiated. So, few firms they supply the entire market with a product, either it is homogeneous or differentiated.

The other way to analyze this that even, if there are large number of firm, still there are few firms 2 or 3 firms or 4 firms, they generally supply the entire market, and the market share of the other firms is very negligible or very insignificant, then at least some firms have large market share, and those can influence the price of product. So, continuing with the first characteristic, we can say that those who have the largest market share, they can influence the price of the product. So, it is not only one firm, there are many firm who is having the larger market share, they can influence the price of the product.

The firm is oligopolistic are aware of their interdependence and always consider the rival reaction when setting price; output goals, advertising budgets and other business policy. So, as we are talking about the interdependence of firm, there is a interdependence of firm; the firm knows that there is a interdependence between the firms in the market, and they always consider what would be the rivals reaction, when they set up their price when they decides the output, when they decide about their advertising budget, and when they talk about their policy, they talk about their strategy, they always keep this in the mind that for how the rivals is going to get react to this, and they generally set on that basis that what will be the rivals reaction.

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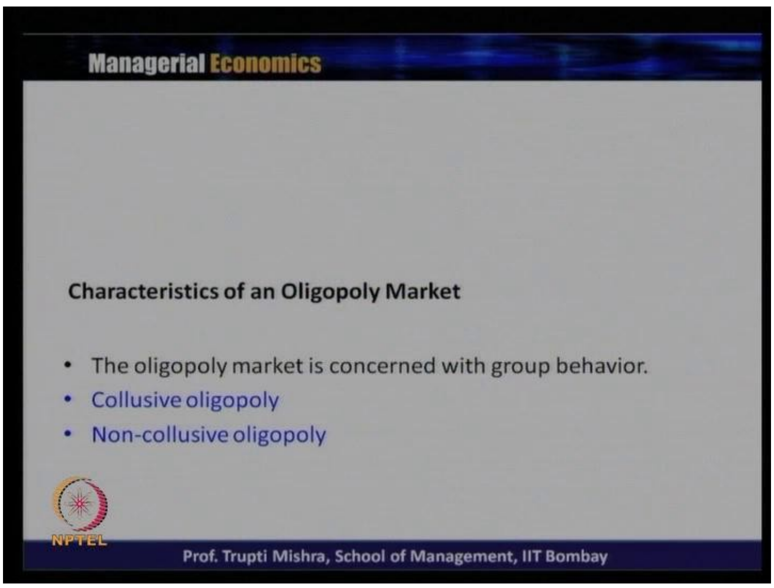

Again one more characteristic and on that basis, we can divide the total oligopoly market into two kind of market; one is collusive, another is non-collusive; collusive oligopoly is a one, where all the firms they together, they do not compete with each other, they collude with each other. So, there is no competition, and here the group dynamics or the group behavior is that all of them they collude together to maximize the profit, and this is generally known as the collusive oligopoly, and non-collusive oligopoly, when the competition takes place between the oligopolies firm, and here still they are interdependent, but they are not in collusion rather they are competing with each other.

But in case of collusion generally, it happens that they are not competing with each other, they collude they jointly decide; what should be the price output; what should be the advertising; what should be the market sharing; what should be the policy and sometimes that collision leads to a to the monopolies, because they act as a one body, when it comes to price output advertising or the business policy.

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So, two kind of market immerse from the group behavior of the oligopolies firm; one collusive oligopoly, when they collude; second non-collusive oligopoly, when they do not collude, they compete with each other in the market.