

Integrated Marketing Management
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Lecture – 23
Pricing Strategies

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Pricing - a real problem for the first time

Let the demand equation be: $Q = 1000 - 4P$ ---(1)

Cost function: $C = F + VQ$
(C=Total cost; F=Fixed cost; V=Unit var. cost; Q=Quantity)

Let $C = 6000 + 50Q$ ---(2)

$R = PQ$ ---(3)
(Total Revenue)

$Z = R - C$ ---(4)
(total profits)

Determine the relationship between Z & P by solving 1, 2, 3, 4

$Z = R - C = PQ - C = PQ - (6000 + 50Q)$

$= P(1000 - 4P) - [6000 + 50(1000 - 4P)]$

$= -56,000 + 1200P - 4P^2$

(For $P = 150$ $Z = 34,000$ - Highest profits)

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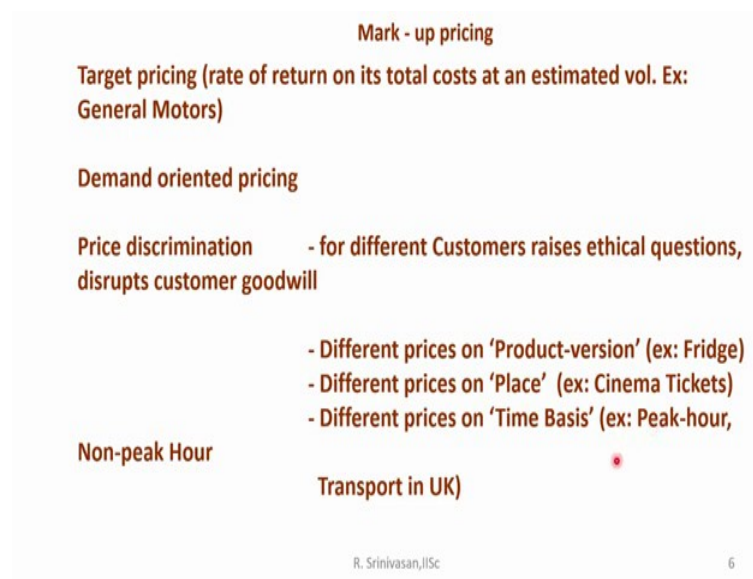
Now, when you are pricing a product for the first time what happens? It becomes a real problem when you are pricing a product for the first time. In order to illustrate this whole scenario I have taken a simple equation. So, you are looking at the quantity that is to be that is produced, and then giving an equation for the demand. Let us say this equation is like this Q is equal to 1000 minus 4P. Now you how does the cost function represented itself? The cost function represent itself as C equal to F plus V times Q. What is this F? F stands for the fixed cost, V stands for the unit variable cost, Q for the quantity.

So, when you look at cost function your cost function is characterized by C equal to F plus VQ. Now, suppose you are given equation let us say for this cost function like 6000 plus 50 Q then how does your revenue come? The revenue is a is you obtain the revenue by multiplying the price of the product with the quantity sold. So, the R will be equal to P into Q, then what will be the total profits? The total profits will be nothing, but the total revenue minus the total costs. So, Z or the Z representing the total profits will be R minus C.

Now, suppose we have to determine the relationship between Z and P. How do you do that? You can solve all these 1, 2, 3 and 4 equations. So, take that Z as R minus C. What is R? R is P Q minus C, then what is this C? Substitute this for C P Q minus of 6000 plus say 50 Q, then what do you get? You again substitute for your Q you get this equation. What is likely to happen? If you see this equation becomes minus 56000 plus 1200 minus 4 P square you solve this equation, the second differential is likely to give you what should be the price that should be charged.

So, if you solve this equation you will get for P equal to 150 your profits will be at 34000 which is the highest, this I represented to you when I looked at the differential calculus earlier in the previous classes. So, the same equation I am using it for pricing the product. So, when your P is equal to 150 your profits is at the highest that is 34000 which is what the company will be very happy at, so this is what characterizes the product.

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So, when we are looking at a when you are looking at the next type of pricing this is called mark up pricing. What is this mark up pricing? You look at a target pricing that is you say this is the cost which has which I have invested in producing this product, I must and should get this type of profits on this, that is the rate of return on its total cost at an estimated volume. This was being practiced by General Motors and still practiced for a

very long time ok. So, because of the terrific competition General Motors finds it difficult to do this target pricing now.

The second one which you look at is demand oriented pricing take the cinema tickets, suppose you want a balcony ticket; balcony tickets always priced higher. Why? Because you are seeing the cinema from a distance; so, the front class where you are exposed directly to the screen the noise everything then what is going to happen your that price of that particular tickets or the class of tickets will be lower ok.

So, this is what is represented by this demand oriented pricing. So, this is in fact, this was referred to by one of the ministers very recently when he said, the first day 3 movies recorded 120 crores; that means, to say the movies where full right from first seat to the last seat. So, you had a pricing which was very successful for all these movies 3 movies which came in initial. So, the price discrimination suppose if you discriminate the price that is for one customer you charge one price and other customer you charge a different price, then it is likely to disrupt the customer goodwill.

So, it rises a ethical questions that this man is not, this company is not, or the firm is not a ethical marketer. It keeps on changing its prices depending on who is purchasing the product, but sometimes it does not really matter because you may charge different prices on product version; example is the fridge. Suppose, it is at one door fridge you may charge a particular price, it is a two door fridge you may charge a particular price or it can be different prices on place like the cinema tickets the front and the back.

Or it can be different prices on time basis; suppose you are travelling by train in peak hour some of these peak hour traffic especially in the Western countries their price is very high. Unless and until there is a need you should not travel as an individual customer in the peak hour that is you are likely to be charged at least 3 times more than the on peak hour.

So, the best example for this would be your ticket prices on the leads to London route in the United Kingdom. So, it is normally said it is normally considered your 6 o'clock to 8:30 from leads is a peak hour traffic. So, when you are boarding a train in this peak hour traffic you are charged very heavily, suppose if you are a monthly user of this then it peters down it comes down. So, makes you not highly susceptible to this peak hour

traffic. So, this is what is practiced in the United Kingdom and also in many other western countries.

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Price changes: depending on the "price elasticity of demand"

$$= (\% \text{ Of change in qty demanded}) / (\% \text{ change in price})$$

$$\text{i.e. } E_{qp} = (Q_1 - Q_0 / Q_0) / (P_1 - P_0 / P_0)$$

The less elastic the demand, the more it pays to raise the price. This happens when:

- 1) there are few or no substitutes or competitors
- 2) buyers do not readily notice the higher price
- 3) buyers change their buying habits slowly and search for lower prices
- 4) buyers think price rise is justified by quality improvement

Now, you want to change the price of a product. How do you go about it? You changed the price of a product depending on the price elasticity of demand. What is price elasticity of demand? It is the percentage of change in quantity demanded divided by the percentage change in price. How do you represent it? It is represented by E_{qp} in of Q_1 minus Q_0 that is a first time period the 0 time period, Q_1 minus Q_0 divided by Q_0 , then the price in the first time period P_1 minus P_0 in the zeroth time period then divided by P_0 .

So, you as you introduce the product you had a prize the first slot of time say 1 month later you had a different price, then why how should you go about this price change. You can look at the price elasticity of demand when you look at their price elasticity of demand you say I change the price what is going to happen to the quantity demanded.

Is it going to be higher or is it going to be lower so, depending on that you can say the elasticity of demand was based on price E_{qp} is represented by this. Suppose the less the elastic of the less elastic is the demand, then how what should be the strategy of the marketer? It pays for him to raise the price. When does this happen? When there are few or no substitutes or competitors. Take the example of this Dove soap, when it was

initially introduced in to the market it was priced at a particular rate about 30 to 35 rupees.

Now, if you look at the dove soap it is not coming to you at less than 45 rupees, but users of this Dove soap think that there is no substitute for Dove in the marketplace, Dove is a class apart compared to other soaps. Similarly you look at Pears that is also the users of Pears think that it is a class apart from the other soaps which are in the marketplace. Then sometimes you may be the buyer as a buyer you mean do not readily notice the higher price; the price might be changed little, say 25 paisa 50 paisa, you do not notice it immediately unless and until you are told in your house a why are you paying more.

So, this happens when you are not noticing the higher price, but if it is an ever used product like the milk even a 1 rupee higher price is noticed why it is being charged 1 rupee higher. Many times buyers change their buying habits slowly and search for lower prices, suppose you are user of this product you increase the price of these products price has increased, but still you may not like to change this product it is has changed does not matter.

I am not changing the price of this product take the example of car servicing, if you have taken a good branded car like Maruti or some other this thing you are in spite of this service stations of this car many times charging higher, you would like to go to the same Kalyani motors only. Let him service the car, there is a certain garage which may have to be opposite Kalyani motors only which is charging a lower price, but still you would prefer that you do not want to change this habit of getting your car serviced from an authorized service dealer.

So, sometimes you think that price rise is justified by quality improvement. So, suppose your product's price has increased; you may tend to think that this product is differentiated better by their improved quality in the marketplace.

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Competitor's reaction to price changes

- Conjectural price variation

$$V_{A,t} = (P_{B,t} - P_{B,t-1}) / (P_{A,t} - P_{A,t-1})$$

$V_{A,t}$ = Change in competitor B's price during period t as a proportion of co. A's Price change during period t

Product-line pricing - made difficult since various products are interrelated in demand (cross elasticity) / or cost and subject to varying Degrees of competition (ex: TVs - colour & B&W and radios)

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So, these are some of the things which buyers give justification for the increase in price, and which the manufacturers capitalize on. There is one more aspect which you have to look at with respect to price changes, you change the price what are the competitor do he is not just going to keep quiet. He will do what is called price variation that is changes coming from the competitor, it may be represented by this term called conjectural price variation.

It is represented by this equation $V_{A,t} = (P_{B,t} - P_{B,t-1}) / (P_{A,t} - P_{A,t-1})$. What does this stand for? $V_{A,t}$ stands for the change in competitor B's price during period t as a proportion of company A's price during period t. So, you had the B pricing the product at a particular rate in time period t vis a vis the t minus 1 period divided by A of a this A priced during t and the t minus 1 period.

So, this is how you have to suppose you have changed the price of this product from increased it by rupees 1, but you are competitor increases it only by say 50 paisa; this is what I brought out through the game theory models in the earlier classes. Sometime it is it may be better of both of you to rise the price, both of you might make profit. Suppose it is a what do you call single competitor scenario, but no longer is it a single competitor scenario in the market place it is a complex scenario. When it is a complex scenario of so many players all marketing analytical models come into play.

So, you push in so, many analytics into conjectural price variation models. So, it is not one it has so, many players and the model takes different variations depending on how you are looking at it. There is something called a product line pricing. What is this product line pricing? There may be various products which are interrelated in demand, then pricing is very difficult, suppose it is an interrelated product. So, suppose let us say you are using a pencil along with that pencil eraser might also be required.

So, how do you price these types of products which are interrelated in demand? So, engineers are very fond of using these types of different types of erasers, they should be erasing these things what they do on the drawings very nicely. Similarly, they are very fond of using very standard pencils which give them very accurate depictions as well. So, sometimes this product line pricing may difficult since various products are interrelated in demand, that is cross elasticity and are cost. So, it may be related interrelated in demand or in cost and subject to varying degrees of competition.

So, if you looked that how the TV's graduated. So, if you looked at the color TV and the black and white TV, when the black and white TV was in home you never found any difference between one black and white TV and another black and white TV. Now, when the color TV started coming into the marketplace you found that color is a natural TV ok. So, how naturally it is being projected many times used to wonder. So, all the people were who are coming in a drama or in a cinema they were looking very good.

So, initially people used to wonder whether all this cinema heroes and heroines are so, good to look at. So, when you looked at them face to face only you will know whether is good or not good, but this color TV is use to present them or still present them in a wonderful manner ok.

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<u>Product-line pricing principles</u>			
(A) <u>product-line cost structure</u>			
	<u>Det. 1</u>	<u>Det. 2</u>	
1) lab cost		10	15
2) material Cost	20	10	
3) overhead cost	5	10	
Full cost (1 + 2 + 3)	35	35	
Incremental cost (1 + 2)		30	25
Conversion cost (1 + 3)		15	25
(B) <u>Alternative product-line prices</u>			
	<u>M/u</u>	<u>Det. 1</u>	<u>Det. 2</u>
1) full cost pricing	20%	42	42
2) incremental cost pricing	40%	42	35
3) conversion cost pricing	180%	42	70

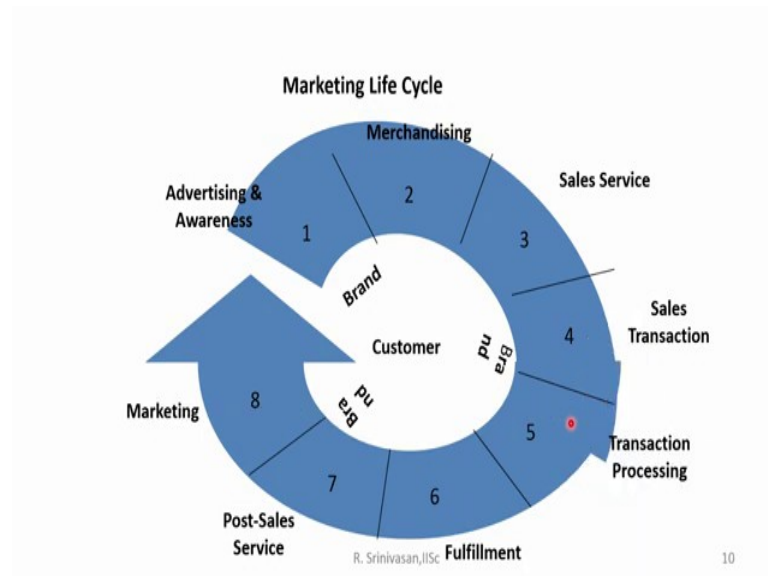
Now, I present to use a few product line pricing principles, I have taken two detergents and I have given the what do you call this for detergent 1 this cost is 10 for labor, for detergent 2 it is 15 let us say. Similarly material cost, overhead cost all these costs. Now, what is the method of pricing you can adopt for this particular detergent 1. Suppose you adopted the full cost price, then it is labor cost plus material cost plus overhead cost this could be one pricing.

The other method of pricing could be based on incremental cost that is 1 plus 2 labor plus material or it could be on conversion cost that is again labor plus overhead cost ok. So, if you adopted that you may find when you look at the markups that you should do for this detergents, suppose you looked at full cost pricing with a 20 percent markup detergent 1 and detergent 2 get priced at the same level 42 and 42. So, this should be actually 30 15 for the detergent 1, 25 25 for the detergent 2; similarly 10 for the detergent 1 and 15 for the detergent 2 in the labor cost.

So, the incremental cost if you look at the incremental cost pricing. When you in do this at 40 percent markup detergent 1 becomes 42 that is detergent 2 becomes 35 that is detergent 1 becomes 7 rupees more compared to detergent 2. Suppose you adopt the conversion cost pricing and you do a markup of 180 percent then what is going to happen? Detergent 2 will become 1 will become 42 detergent 2 will become 70.

So, if you are the producer of detergent 2 you are better off doing the incremental cost pricing, if you are a producer of detergent 1 whether you are doing full cost pricing, or incremental cost pricing, or conversional cost pricing it really does not matter. So, all the owners for changing are changing the strategies of pricing falls on detergent 2 manufacturer only ok.

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Now, if you look at the marketing life cycle, this marketing life cycle can be visualized as, if you see you have the brand your brand coming in. The first thing is what you do with respect to advertising and awareness, second is the merchandising, third is the sales and service. The fourth is the sales transaction, the fifth is the transaction processing, the sixth is the fulfillment, the seventh is the post sales service, then the eighth is the real marketing.

So, you have a customer at the central place the brands revolving around the customer. So, advertising and sale awareness, merchandising, then sales service, sales transaction, transaction processing, then fulfillment, post sales service and marketing all this coming and representing what we call the marketing life cycle ok. You go through a marketing life cycle using all these things with respect to any product or product line as well.

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Relationship Marketing		
Phase 1	Awareness	The parties recognize that they may be suitable exchange partners. Tentative interaction takes place
Phase 2	Exploration	Trial purchases may take place. The relationship is fragile. Five sub-phases are proposed: <ul style="list-style-type: none">-Attraction-Communication and Bargaining-Development & Exercise of Power-Development of Relationship Norms-Development of Expectations
Phase 3	Expansion	The range and depth of mutual dependence increases. The five sub-phases at phase 2 also operate in this phase
Phase 4	Commitment	Customer (or seller) loyalty has been achieved. The parties cease active search for alternative partners. Three measurable criteria of commitment are: <ul style="list-style-type: none">-Inputs-Durability-Consistency
Phase 5	Dissolution	Dissolution may take place at any phase of the relationship (ie, the 'relationship' need develop no further than awareness). The process of relationship dissolution are poorly understood.

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We now come into what is called the relationship marketing, what is this relationship marketing? You are going through 5 phases, 1 is making aware of the product or the market of the brand, then the part is recognized that they may be suitable exchange partners tentative interaction takes place. Then when you explore what happens? Trial purchase may take place, the relationship has not really formed up, it is fragile. Five sub phases are proposed one is attraction, communication and bargaining, development and exercise of power and development of relationship norms and development of expectations.

This is what happens when you are using a startup firm to come out with products, you are exploring different avenues for your marketing and so, many people come and start doing this relationship marketing. And, try to say that yes this we will see that all these products which are brought by you are having the desired this thing in the marketplace.

So, they go through all the stages, the phase 3 is expansion: the range and depth of mutual dependence increases. The five sub phases at phase 2 also operate in this phase. Your fourth stage is commitment where you are looking at call loyalty, customer or seller loyalty has been achieved. The parties cease active research for alternative partners. The three measurable criteria's of commitment or inputs durability and consistency, this is in fact, how you evaluate a channel member also.

The last stage is where you dissolve this relationship marketing that is dissolution may take place at any phase of the relationship, that is the relationship need no developed need develop no further than awareness. The process of relationship or even today not very well understood.

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Relationship Marketing

Five requirements for successful relationship marketing

1. A supportive culture
2. Internal marketing
3. Understand customer expectations
4. Sophisticated customer database
5. New organisational structures and reward schemes

Source: Buttle, 1996

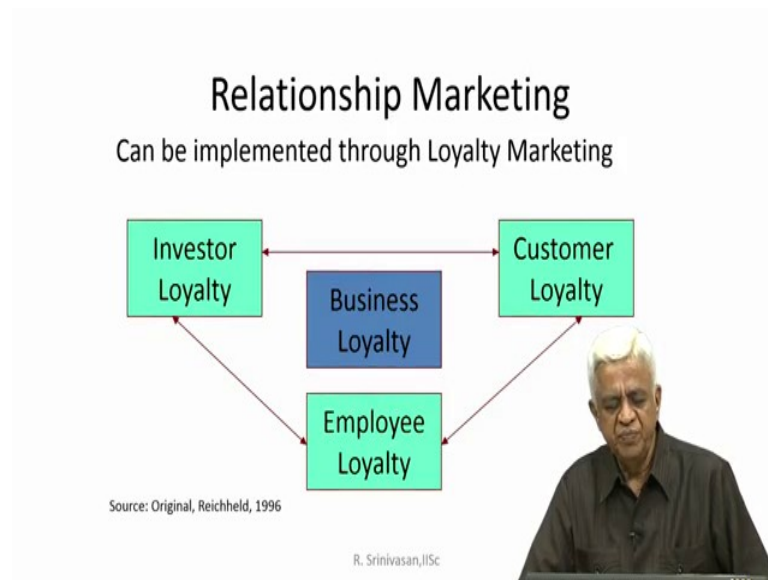
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For a successful relationship marketing you require a supportive culture, a good internal marketing; you should understand your customer expectations, you should have a sophisticated customer database. And, you should have a new organizational structures and rewards schemes as the market progresses. This is what you are finding with reference to different TV operators right now in India, you have the Airtel service provider, you have the what do you call the Videocon service provider, you have the TATA Sky, you have the Sun so, many people all of them are buying for a market share.

So, if you are using Videocon you may get a call from TATA Sky saying that these packages are being offered would you like to switch over from Airtel to TATA Sky. So, these things are becoming really common in the Indian market place now, all this makes the job of relationship marketing very important.

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And all this is represented by this diagram, that is you have the investor loyalty and there is a two way relationship between the customer loyalty and the investor loyalty. The centre portion representing the business loyalty and there is again a two way interaction between the investor loyalty and the employer loyalty and again between the employer loyalty and the customer loyalty.

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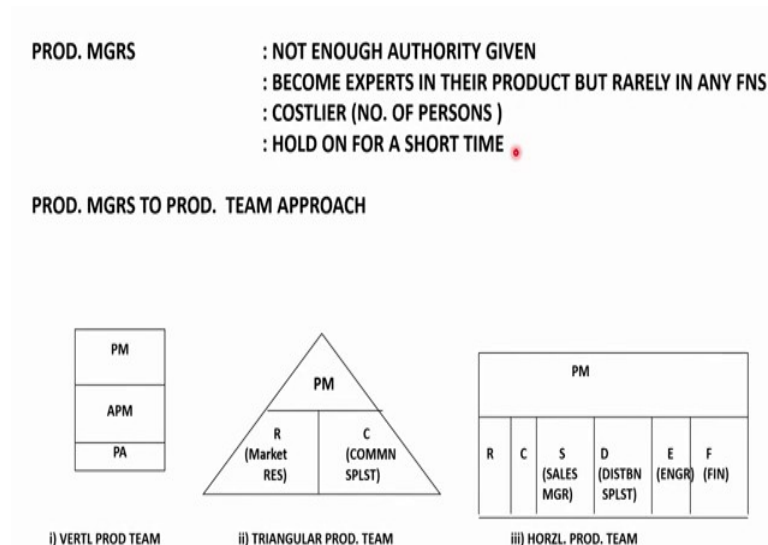
So, you should have a good internal marketing in place to see that this relationship marketing succeeds, all this brings you to the role of the product manager. So, you

should have a product manager in your organization, this product manager is the one who plans, implements and monitors the results. Suppose it is a consumer product you may have fewer products then he has to spend more time on advertising and sales promotion. Suppose, it is an industrial product, he should be well versed with the technical aspects, the design inputs and he should spend more time with lab and engineering person.

So, he should be willing to interact with them. For an organization it would be better to have a product manager because it gives certain advantages. One is it can result in a cost effective marketing mix, it can result in quicker reactions to market problems. It can also ensure that your smaller brands are not neglected so, you put enough time, adequate time on the smaller brands also. Suppose, you are an young executive it can be a good training for this young executive in all areas of company operations, you interact with all practically everyone in the organization starting from production down to marketing.

So, as a product manager you have a free entry into all these different departments and you have a free access to information which is not easily possible in other roles in a company. So, this product manager enjoys this type of this information access in an organization can be very useful for him to device strategies ok.

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Having a product manager would be a great advantage for the person who enters an organization as a product manager, because you will get exposure to almost all the

departments in the organization. But, along with that there are some if you want to call them negatives, some negatives are also there like they have access to information in almost all the departments of the company, but most of the times these product managers are not given enough authority. In other words they cannot override the authority of the people in the functional areas; at best they can make some suggestions.

But there is no guarantee that this suggestions should be taken by the personnel in the functional areas. The other point which comes next to this product managers is they become experts in their product, but they rarely become experts in any functions with respect to their product they become experts. For the organization it is a costly exercise, because you should have number of persons acting as product managers for their different products. Most of these product managers they hold on for a short time, you cannot expect them to be a long time employee of the organization.

So, this is one of the things which the organizations try to keep in their mind when they say will have a product manager, suppose you he becomes an expert and he wants to leave within an year. Then the organization would have invested a considerable amount on him, he becomes an expert in their product in his particular product, but the next time his services will not be there for the company. So, organization sometimes are vary of having too many product managers also.

In contrast to this product managers now organizations are looking at product managers to product team approach, that is you have a product manager, you have under him as assistant product manager and then under him a product assistant or whatever you want to call that. So, this is this can form a vertical product team, what happens when you have a team approach that is somebody wants to leave the organization also, there is a buffer which is available with the organization which can take care of the activities of the product managers group for some time.

You can also have a triangular product team where you have a product manager; under him you have the market research person and the communication specialist. You can also have a horizontal product team approach where you have the product manager under him you have the research person, you have the communications person, you have the sales manager, you have the distribution specialist, you have the engineering department, you

have the finance department, that is the engineering personnel, finance personnel; all in this horizontal product team approach which you can adopt.

So, the result is there is why are you doing this team approach? As I mentioned the team approach provides the organization sufficient cushion. So, the product manager's activities are keenly observed by all the people working under him, and if for some reason the product manager wants to leave the organization then the product team will take over for sometime before you have one more product manager in position.

So, this is the advantage of having a product manager, becoming a product manager in an organization. Sometimes some of the negatives with respect to the organization and also with reference to the individual, we are seen individual not enough authority given you; he cannot overwrite the functional areas authority. They become experts in their product, but for the organization they are a costly exercise, many times do not hold on for a long time only for a short time.

So, in order to have cushion you can instead of one product manager to product team approach where you have a buffer coming in the form of the assistance product manager or the product assistant in the vertical production team. In the vertical product team, in the triangular product team it can be product manager under him the market research person the communication specialist.

Under the horizontal product team you have the research, communication, then the sales then the distribution, then the engineering people, then the finance people, all coming under the product manager; closely observing what the product manager is really doing, or what is the type of ideas contribution which is coming in from him, so that in case of need some buffer is available to the organization.

So we stop here, we continue in the next class.

Thank you.