Lecture - 29
Diffusion of Innovation - I

Welcome. In today's module, we will discuss about diffusion of innovations. A diffusion of innovation I will cover up in three major sessions. One is diffusion of innovations one where I will discuss about diffusion of innovation means and what are the elements of diffusion process. Secondly, I will talk about the adoption process and finally I will talk about the influencing factors of the diffusion of innovations and the role of opinion leader in that.

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So we will talk about the concept of diffusion of innovations. The diffusion of innovation refers to the propensity of new products practises or ideas to be stretched among people. So diffusion may be referred as an inclusive course concerned with the reach of a new products alternatively it may be known as innovations from its producers to consumers. The process of diffusion therefore identifies the rate of the product acceptance.

And consequently mirrors of the this is actually the mirror opposite of the product life cycle how it is related I will discuss that chronologically. It attempts to spot out the innovations in the introduction period of the product lifecycle the early adopters during the growth phase and late adopters and laggards during the maturity and decline stages respectively. So before moving towards the process of diffusion, I will discuss in this session about the elements of
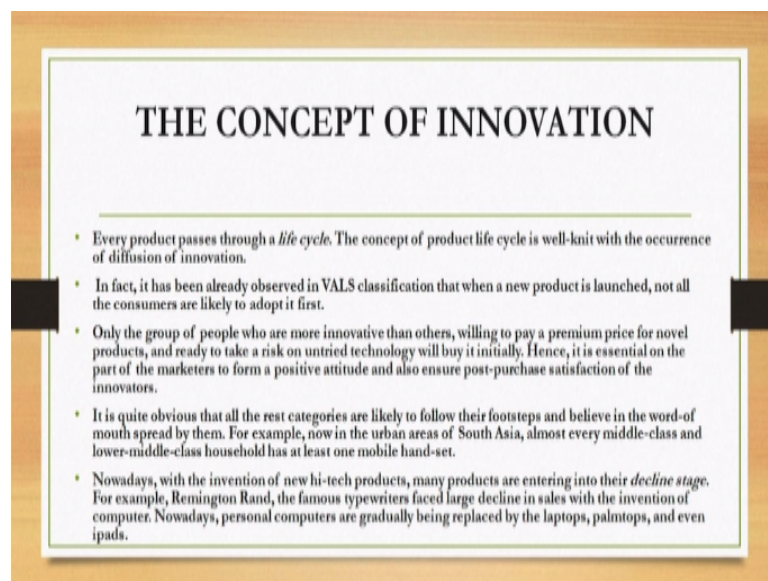
the diffusion process.

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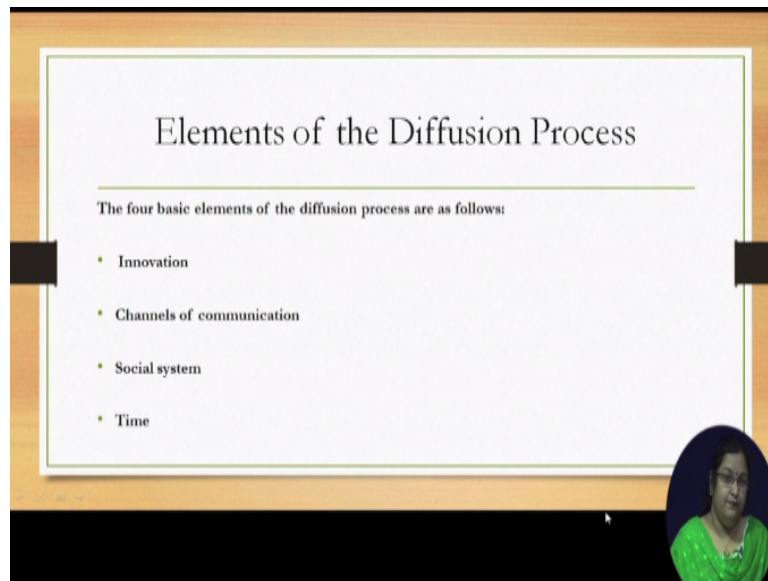
There are four basic elements of the diffusion process. One is the innovation, channels of communication, social system and time. Let us see one by one. So first we will elaborate the first concept here which is innovation.

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So what is it we discuss about the concept of innovation so every product as we know passes through a product life cycle starting from the introduction, growth, maturity and decline stage. So the concept of product life cycle is actually a well-knit with the occurrence of diffusion of innovation. In fact, it is already been observed in VALS classification when I have discussed at that time that when a new product is launched not all consumers are likely to first adopt it.

Only a small group of people those who are innovative they are willing to pay a price premium for the novel product and ready to take risk on untried technology will buy it initially. Hence it is essential for the part of the marketers to form a positive attitude and also to ensure post purchase satisfaction of the innovators a small example Apple iPhone 7 has been launched now who will first adopt it.

There are certain customers those who will actually buy these iPhones as soon as it is launched. Even if they are having an IPhone 6 they will try to change their model or replace their older model with the iPhone 7. So why because this people want to adopt technology very fast and they do not mind much paying a premium price for a novel product. (()) (04:25) So, therefore, this is the class which you have to first target.

But at the same time, you have to ensure that they are satisfied with the use of the product because they will be first people those who will write in the online media, Facebook and all about their experience with the product. Samsung faced a problem with their note 7, note 7 series because, soon in the social media and everywhere people started spreading negative word of mouth about it.

So this part has to be post-purchase satisfaction they have to ensure. It is quite obvious that all the rest of the categories follow their footstep and believe any word of mouth the spread. So that is why, you know, post-purchase satisfaction is extremely important. Nowadays with the invention of new hi-tech products many older products are also entering in the decline stage.

For example, Remington Rand the famous typewriter nothing wrong with the product, but only thing is that it failed to capture speed of time. So typewriter computer has replaced them and nowadays Remington Rand is almost becoming an history. Pagers has been replaced by mobiles. Now the personal computers are soon getting replaced by laptops, palmtops and even iPads.

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THE CONCEPT OF INNOVATION
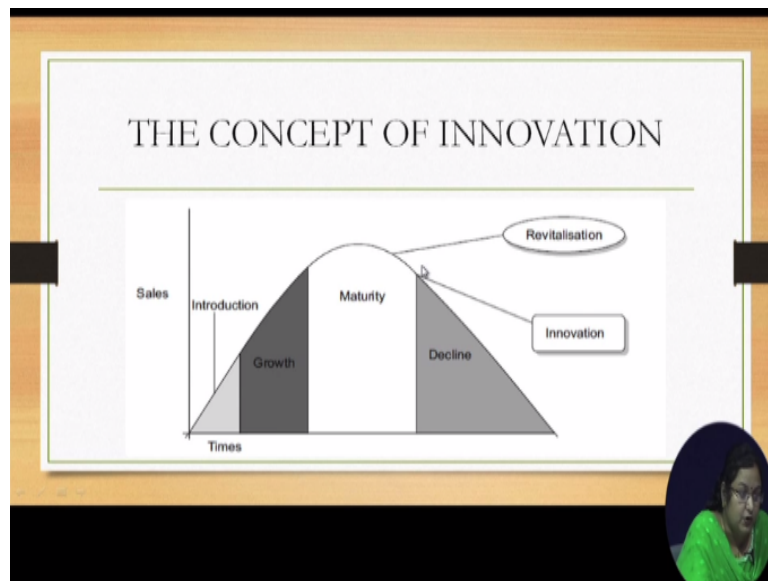
So this is the concept of innovation as you can see here one side is the different timeframes and this part is the sales part. So if you consider these as product lifecycle here the revitalization of the product can happen and just before the decline stage you can think of innovating the product especially the product like software or hi-tech products what happens in the maturity phase you should start up revitalizing it.

And see how you can improvise the product so that you can arrest the decline by launching a new version of it.

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Degrees of Innovation

Now, the question is to what degree should I innovate because innovation is generated in various degrees. Robertson in 1967 he has said that the innovation can be of three kinds. These are A is a continuos innovation, B is the dynamically continuous innovation and

another is the discontinuous innovation. What are these things?

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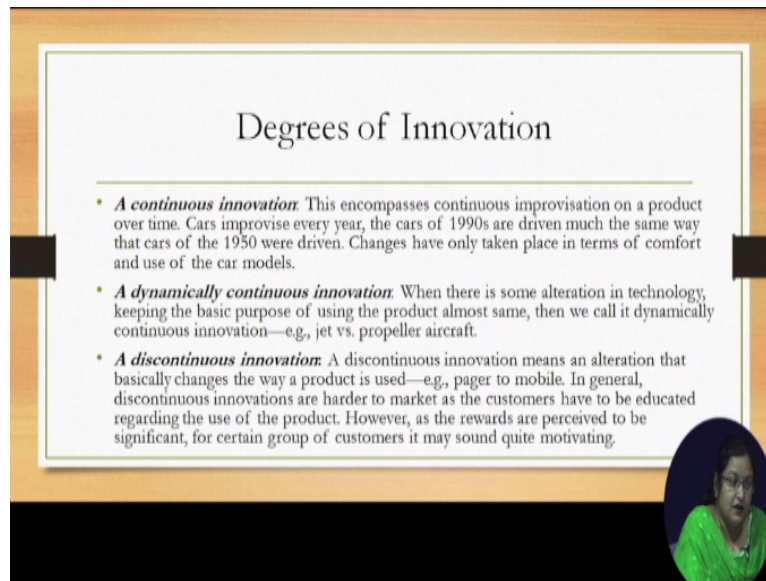
The first one continuous innovation these encompasses the continuous improvisation on a product overtime. Cars improvise every year. The cars in 1990 are driven much the same way that the car of 1950s were driven changes have taken place in terms of comfort and use of the car models. So the driving principle is same only a normal gear has been replaced by power gear and power steering or power gear actually now it is also resulted in gearless cars.

And obviously he can also see the invention of the driverless cars or driverless cabs which is coming out. So these are basically a continuous innovation purpose is same only you are keeping on improvising the things. Even your iPhones or even the Samsung is launching different kind of mobile handsets or Godrej boys is launching different refrigerators these are basically improvisation from one version to the another version.

A dynamically continuous innovation occurs when there is some alteration in technology keeping the basic purpose of using the product almost same then we call it dynamically continuous innovation. For example, Jet to Propeller aircraft. A discontinuous innovation a discontinuous innovation means an alteration of the basically changes the way a product is used.

Like from a pager to mobile. A typewriter to computer. So in general the discontinuous innovations are harder to market as a consumers have to be educated regarding the use of the product. So however the rewards are perceived to be very significant for certain groups of

customers, but it may be sounds very motivating for the innovators, but for the early adopters for the late adopters late majority the movement can be little slow because dishwasher for example is a common concept in abroad nations.

But in our country we are much inclined towards maid system so therefor except in big hotels and very, very rich families the concept of dishwasher is still a new one. So it is a taking a much slow pace for adoption in our country. So this is, you know, like it takes times actually. Over a period of time people may adopt it, but it takes times.

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Channels of communication. So marketers is looking for diffusion of innovation usually concentrate on how the product related information is extended to the target group to different channels of communication. Once the awareness is shaped and more and more information reaches to the marketers the early adopters develop their interest on the product. So they usually depend on their friends and relatives to assist on the new product evaluation process.

Now here particularly in nowadays there is a concept called electronic word of mouth rather it is (()) (10:30) say rather than opinion which means most of us are connected in the social media. So whenever we want to buy a new television, new house or something we keep on discussing about that with our friends in the social media and their opinion matters whatever they are saying about the locality.

Whatever they are saying about a particular builder to select a house that matters to me and

that is known as spreading electronic word of mouth. And let me just intimate you that studies have indicated that negative word of mouth is actually much more stronger it influences the customers much more than the positive word of mouth.

So marketers in this case, I mean if they really want that the product should move from the innovators to the early adopters or beyond that then they have to see at each level what kind of word of mouth is getting generated and how they can control that factor that is emerging area of research. So as I have said one is like this from the electronic media where you can take opinion from your opinion leaders as well as from your friends and peers.

But also you can take information from impersonal sources which means that you can see different kind of promotional materials, companies websites to collect more information about it and there could be some other interpersonal source like reference group like Dhoni is say promoting Boost, so I am inclined to buy Boost so it may be like that also.
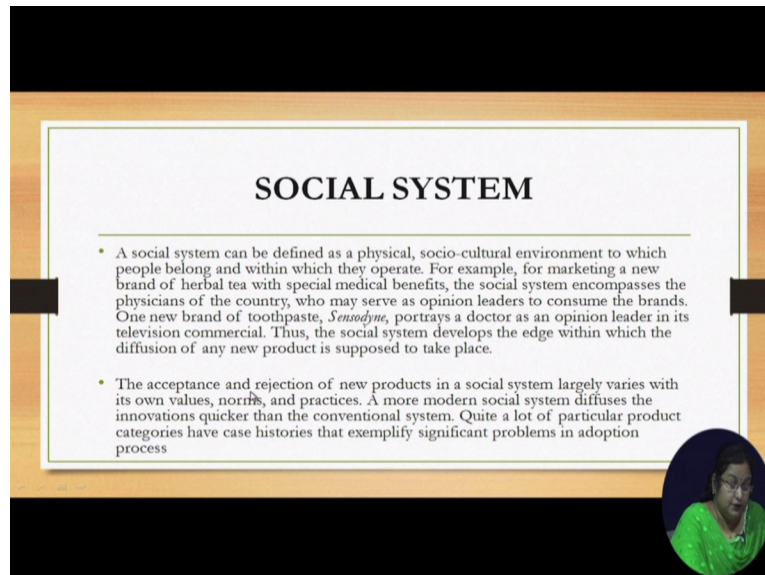
If a celebrity is endorsing a particular brand maybe, he is in my reference group aspirational reference group and I am following that. Opinion leaders sometimes, you know, like one of the paints company along that what they have did they wanted to go for a rural penetration. So in the rural penetration they found the people do not have the habit of buying a branded color.

So as an initiative, they have just painted Serban's house free of cost. What is the advantage? Many people actually visit the Serban's house off and on. So the information will be communicated because the Serban himself will become an opinion leader because you have motivated him by providing a free painting of the house. So this is how you can motivate them or particularly for medicine sales medical representatives they motive the doctors to prescribe the medicines.

Or they motivate the chemist to keep the medicines in their particular shop. They are not dealing with their direct customers that is the patient or patient parties. They are dealing with the doctors because I will buy a medicine what my doctor prescribes me. Student will buy the text book which the teacher prescribes and in the same logic the publishing houses are actually meeting the teachers fast and the librarians first rather than meeting the students who is the ultimate consumer.

So hence because the teachers are in this case are the opinion leaders. So hence it is clear that at this point the exposure to marketing communication to mass media, newspaper, television etcetera is quite higher amongst the early adopters than the late adopters.
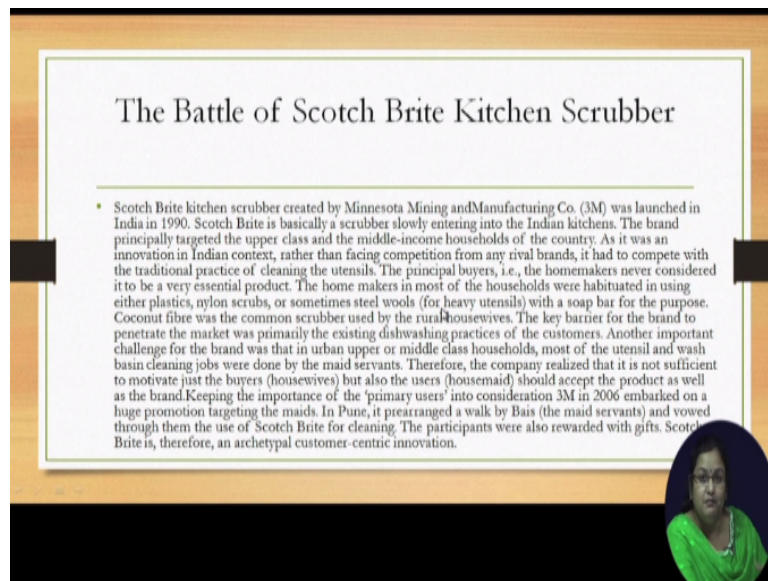
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Now there is another factor called social system. A social system can be defined as physical, socio-cultural environment to which people belong and within which they operate. For example, for marketing a new brand of herbal tea with special medical benefit like organic India tea. The social system encompasses the physicians of the country who may serve as opinion leaders to consume the brands.

One of the brands like Sensodyne they portray a doctor as an opinion leader in the television commercial, image of doctor of course the role of doctor. Thus the social system develops an edge within which the definition of any new product is supposed to take place. The acceptance and rejection of new products in a social system largely varies with its own values, own norms, own practises.

A more modern social system diffuses innovation quicker than the conventional system and quite a lot of particular product categories have case histories that exemplifies significant problem in adoption process, but some actually companies they have identified very unique and very attractive promotional process, abstractive use of social system in the promotional process.

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The Battle of Scotch Brite Kitchen Scrubber

- Scotch Brite kitchen scrubber created by Minnesota Mining and Manufacturing Co. (3M) was launched in India in 1990. Scotch Brite is basically a scrubber slowly entering into the Indian kitchens. The brand principally targeted the upper class and the middle-income households of the country. As it was an innovation in Indian context, rather than facing competition from any rival brands, it had to compete with the traditional practice of cleaning the utensils. The principal buyers, i.e., the homemakers never considered it to be a very essential product. The home makers in most of the households were habituated in using either plastics, nylon scrubs, or sometimes steel wools (for heavy utensils) with a soap bar for the purpose. Coconut fibre was the common scrubber used by the rural housewives. The key barrier for the brand to penetrate the market was primarily the existing dishwashing practices of the customers. Another important challenge for the brand was that in urban upper or middle class households, most of the utensil and wash basin cleaning jobs were done by the maid servants. Therefore, the company realized that it is not sufficient to motivate just the buyers (housewives) but also the users (housemaid) should accept the product as well as the brand. Keeping the importance of the 'primary users' into consideration 3M in 2006 embarked on a huge promotion targeting the maids. In Pune, it prearranged a walk by Bais (the maid servants) and vowed through them the use of Scotch Brite for cleaning. The participants were also rewarded with gifts. Scotch Brite is, therefore, an archetypal customer-centric innovation.

Here I will tell you about the battle of Scotch Brite kitchen scrubbers. So minnesota mining and manufacturing company 3M they have actually launched Scotch Brite in India in 1990 and Scotch Brite is basically we all know by now it is a scrubber that time it was slowly entering in the Indian kitchen.

The brand principally targeted the upper class and the middle class households of the country as it was an innovation in Indian context rather than facing competition with the rival brands its main competition was with the traditional practise of washing the utensils. The principal buyers were the homemakers and they never come with that this kind of scrubbers to be essential products.

In the urban India, they were habituated using plastic, nylon scrubs and steel wools for heavy utensils with a soup bar and that used to satisfy their purpose. In the rural India coconut fibre was used as a common scrubber by the rural housewives. So now the key barrier of the brand is to penetrate the market primarily because the existing dishwashing practises was their primary hindrance.

So what they did is they made a very interesting move. They identified that let us first penetrate in the urban area first because urban area since they are technically a little more advanced the adoptability might be little more so that was the understand and that is why what they did is in the urban area to motive the housewives because they knew within the urban area the housewives are actually not washing the utensils most of the time it is the maids who are washing the utensils.

So they use their maids as the opinion leaders and what they did you can see that in Pune they arranged work by bais or the maid servant and vowed through them the use of Scotch Brite for cleaning and the participants were also rewarded with gifts. So therefore it was a kind of very nice movement by this 3M by using maids as the opinion they use them in Pune as the opinion leaders so that the product penetrate in the urban household quickly.

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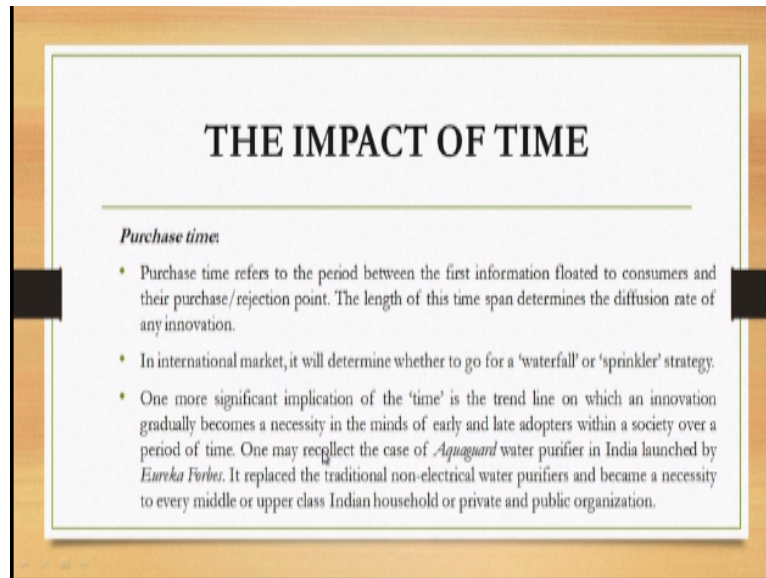
Then another influencing factor or the element of diffusion of innovation is the impact of time that is the purchase time. It refers to the period from which the first information about the product is floated to the customers to the point of acceptance of the product or rejection of the product so this is the time span. Now in the international market the marketers has to go by waterfall or sprinkler strategy based on that.

Say product like coco-cola they have gone by waterfall strategy. First they became successful in their own country then with the profit they move to the next country and that is the way like a waterfall it move from one country to another and the other. Whereas if you are dealing with a hi-tech product or software kind of product you actually have to launch it simultaneously in all the location you want to launch.

Why because after six month or after one year you will see that the new version of the product has been launched and the exiting product has lost its relevance. So ne more significant implication of time is the trend line on which the innovation gradually becomes a necessity in the mind of the early or late adopters within the society over a period of time.

One may recollect the case of AquaGuard water purifier in India launched by Eureka Forbes. It replaces the traditional non-electrical water purifier to every middle and upper class families nowadays.

Similar has happened for mobile. It was launched for the upper class executives, but now it has become a necessity for even the lower income households.
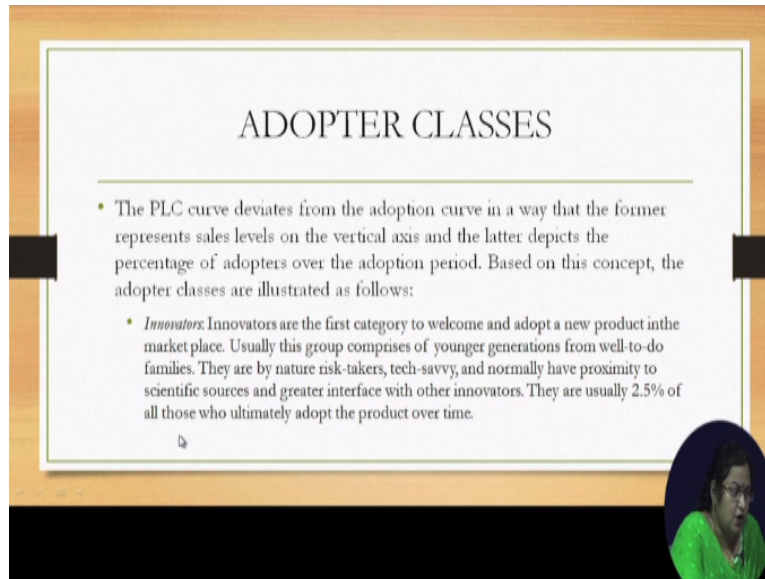
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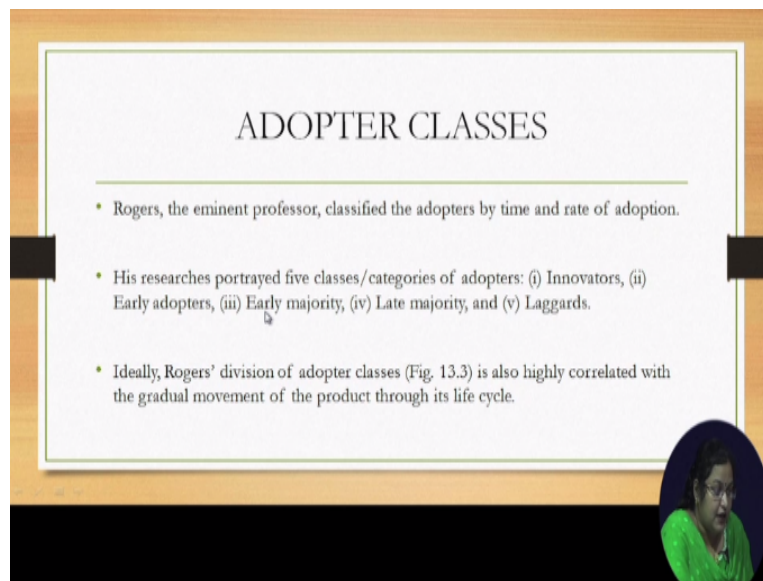
Then another influencing factor is the adopter classes. Rogers the eminent professor classified the adopters by time and rate of adoption and by that he has classified innovators, early adopters, late majority, early majority and laggards as five different category of adopters. So and this is highly correlated with the gradual movement of the product through its lifecycle.

Right now we are showing you this figure number 13.3 from one of the prescribed textbook of Mukherjee consumer behavior published from Cengage Learning. So this is the particular model I have taken from the book itself. So here you can see the product lifecycle in this blue line and here you can see the innovators is in the introduction stage of the early introduction stage of the product actually the innovators are buying it.

When the product lifecycle is in the growth stage at that time you can see first the early adopters and then the early majority about the product. Late majority is actually buying the product when the product is already reached to the majority stage and at the late majority stage of the product this late majority is buying it and finally the laggards will buy when the

product is almost reached towards the decline stage.

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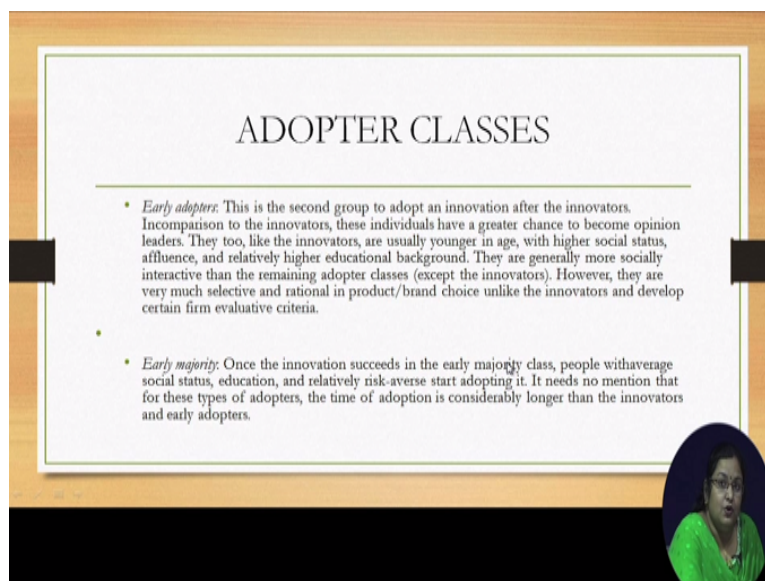
So we will discuss in detail about this adopter classes. So first we talk about the innovators. Innovators this one are the first category to welcome and adopt a new product in the market place usually this group comprises of younger generation and well-to-do families they are by nature risk takers, tech savvy and normally have proximity to the scientific sources and greater interface with other innovators.

So they are usually 2.5% of all those who ultimately adopt the product overtime. So it is the first adopters of the new model of iPhones or new model of television or so on and so forth.

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Then comes early adopters. Early adopters we see the model here, here the early adopters,
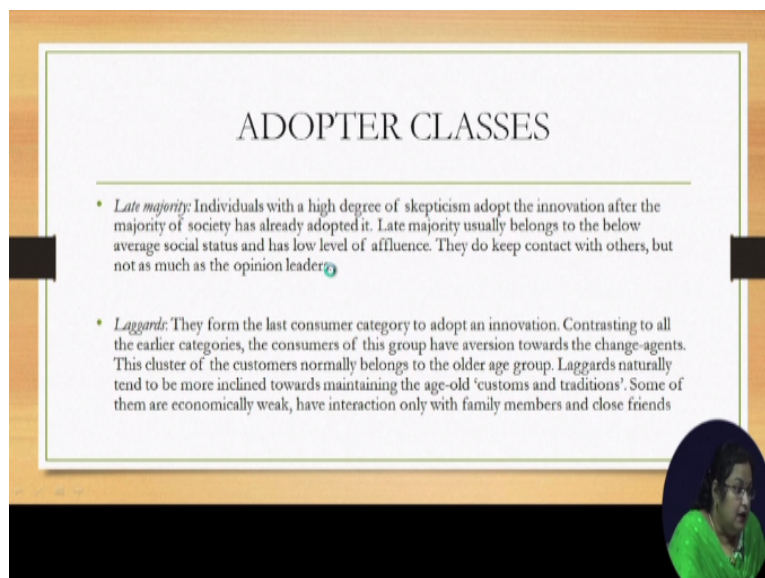
early growth phase by the product. So this is the second group to adopt the innovation after the innovators so in comparison to the innovators these individuals have greater chance to become the opinion leaders. So they too like the innovators are younger in age with higher social status affluence.

Because the relatively will take higher financial risk to purchase the product and relatively higher educational background. So they are generally more socially interacted. They will spread the information through word of mouth either electronically or in their peer group by WhatsApp or something. So the remaining adopter classes except the innovators however they are much selective and rational in product for brand choice.

Unlike the innovators are much more, there also they can be rational, but they could be much more emotional but their estimate could be very high. But whereas these early adopters are very, very rational customers then the early majority. Once the innovation succeeds in the early majority class the early adopters class so at that time people with average social class, education relatively risk-averse start adopting it.

It needs no mention that for this type of adopters the time of adoption is considerably longer than the innovators in early adopters because since their resource is limited they actually use longer time for deciding only product because the financial risk for them would be little higher.

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Late majority, let us go back to the figure late majority comes here. So late majority

individual with a high degree of skepticism adopt the innovation after the majority of society has already adopted it. Late majority usually belongs to the below average social status and has no level of affluence. They do keep contact with others but not as much as the opinion leaders and finally with laggards.

They do not want to change actually. So they form the last consumer category to adopt an innovation. Contrasting to the earlier categories these consumers have aversion towards the change agents. This cluster of customers normally belongs to the older age group. So older age group, say for example the mobile handsets that has moved from very older sets then basic handsets to a smart phone.

And now even the advance level more water resistant smart phones and all this. But the older generation they are more okay with the basic phones because they do not want to spend much on the smart phones or in the mobile phones because they need mobile phone only for calling or maximum for text. So because of this requirement, you know, and they want less complex device.

So that is why they do not want too much of Apple iPhone and all they want a basic device more and they averse to change and this is one reason because of age and the other reason could be because of economically weaker class. Economically, weaker class there perceive risk is high they do not want to change or if they are education wise is low. So maybe they cannot read and write much so basic phone helps them to just give a call.

And they do not want a smart phone. They do not want to check emails and something like that.

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And the other one is the rate of adoption. The rate of adoption refers to the speed of acceptance of the new product by ultimate adopters like the ATM cards experienced a faster adoption in India. Initially some people who were little skeptical about its security aspect did not use it, but later on that barrier has been changed. So nonetheless adoption of credit cards was not a cakewalks like this. It was as complicated as a chicken and egg paradox.

From the retailer's point of view, it had no meaning to accept the credit card until they became a mass phenomenon. On the contrary the consumer looked for only those cards which were largely accepted by most of the retailers. So consequently it was also essential to expedite the process of roping large corporate accounts into the net. So these attempt made the credit card acceptable by both the retailers and the consumers.

Night clubs and discos spread very fast in our country as soon as it entered because of its striking urban lifestyle. It has got the attention of the youths well-to-do of course. And however the bell-shaped curve you see here point of saturation percentage of diffusion which is to the higher level even S shaped curve because it reveals the snowballing of the adoption across the customer segment.

But the saturation point is the greatest fraction of the consumers probably to adopt the product over a certain time period. In case of television in the Indian subcontinent, the saturation level in the desired target market is almost 100% gradually. So nonetheless at times innovation may not be adopted also. For example, it may not be the case of medical insurance in the country.

Because the young people those who have less propensity to ailment and their income level is also it is unlikely that they will try to enroll in any medical insurance scheme unless they are forced to do so. So the adoption rates were in the television is almost 100% mobile is almost reaching towards saturation, but medical insurance is still lacking somewhere here. So this is all about element of diffusion of innovation and thank you we will meet in the next session with the process of adoption.