

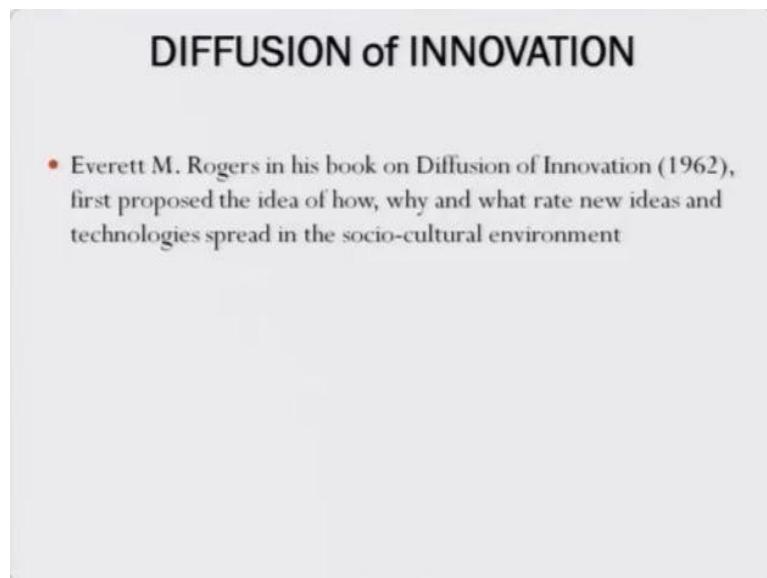
Marketing Management II
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Lecture – W2-L2
Diffusion of Innovation

Hello and welcome to our course marketing management part2, this is session2 of week two in this course, I am Shashi Shekhar Mishra. And I have with me my senior colleague Professor Jayanta Chatterjee. We are from department of Industrial and Management Engineering, IIT Kanpur. And as you can recall discussing about new product development in previous sessions and we have talked about the ways to screen the new products ideas.

So, what I am going to talk about today is, which is related with the end stage of new product development process. When the product it is ready to launch in the market, a concept which is very pertinent related to marketing is diffusion of innovations. So, how a new products idea service is get diffused in the market, how the customers adopt a new product of the service, is that is what we are going to talk about today. So, the diffusion of innovation is a concept which was popularized by, Everett M. Rogers in his book on Diffusion on Innovation.

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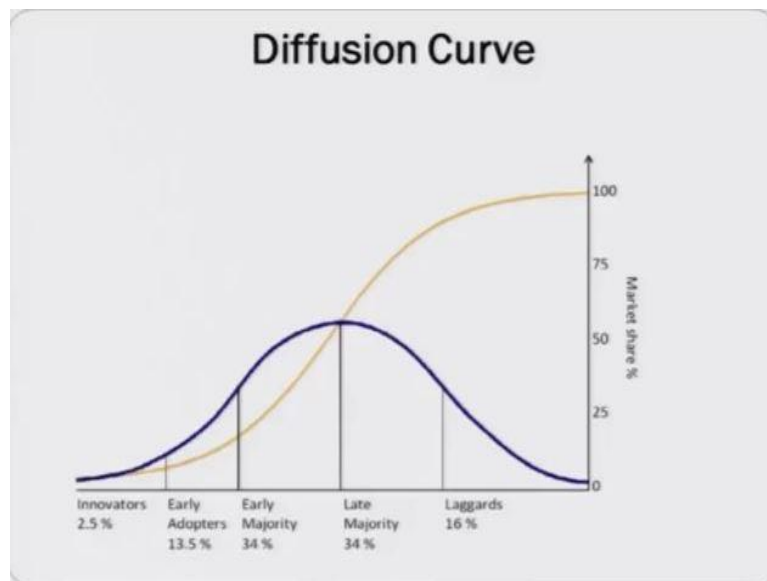


The book came in 1962, first proposed the idea of how why and what rate new ideas in technologies spreading in socio cultural environmental, when we talk about diffusion of innovation, this is a multidisciplinary concept, where the theories from the different areas of social sciences has come. And they have try to explain, why consumer adopt basically a new

product or why a new product get diffused in the market and what rate it get diffuse, depends on the different factors.

So, we will talk about what Rogers has talked about in this context and in this case, when we talk about this diffusion curve is something, which is commonly said that, how the adopted categories are present in the market.

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So, there are different types of customers, they can, the customers can be categorized in different categories based on the way they perceived, are they adopt a new product or service of the idea and there are five categories, we categorize them Innovators, Early Adopters, Early Majority, Late Majority and Laggards.

This was a rough estimation given by at the beginning of when the concept is started, that the categories will be of this size at innovators will be somewhere like, I think, if we assume that number of over time, the number of customers will be of this distribution, normal distribution, then even mathematically we can derive this percentages, yes so, these percentage are close towards comes out as you are saying in the normal distribution. But you will see, I mean like, one can see the variations in the curve, the shape of the curve and the size of the category also.

So, we will talk about this different category in a short while, but when we talk about that or adoption of the innovation or the adoption of the innovation by an individual customer. So, how it basically progresses in consumer or in a customer is, that an idea, basically diffuse or

starts with the, first stage is that customer come to know about a product or the idea. It is the knowledge is basically, knowledge about that idea or the product or the services of the first thing that happens.

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Stage	Definition
Knowledge	In this stage the individual is first exposed to an innovation but lacks information about the innovation. During this stage of the process the individual has not been inspired to find more information about the innovation.
Persuasion	In this stage the individual is interested in the innovation and actively seeks information/detail about the innovation.
Decision	In this stage the individual takes the concept of the change and weighs the advantages/disadvantages of using the innovation and decides whether to adopt or reject the innovation. Due to the individualistic nature of this stage Rogers notes that it is the most difficult stage to acquire empirical evidence

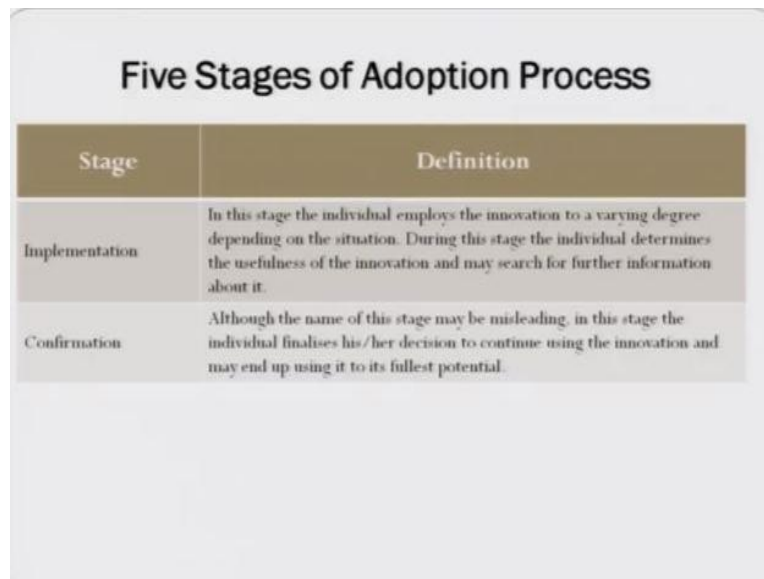
In this stage, the individual is pass first expose to an innovation but lacks information about the innovation. So, there is awareness about the thing but detailed knowledge is not there. And during this stage of the process, the individual has not been inspired to find more information about the innovation. So, this is something, where the motivation is not existing, there is just know how something is existing in the market. The next stage is the Persuasion, where the customer or the individual is motivated enough to know further about the idea.

And in this stage individual is interested in the innovation and the actively seeks information detail about the innovation. And this is an important stage for the entrepreneurial marketer. That is how, the persuasion happens for a new product and how the matching between the products features and customer's needs are created. How basically you can convenience a customer and in what way you can keep the information present in the market so, when customer is looking he find a suitability between his needs and the features which product or the idea new product idea has.

So, the next thing is the decision once a customer actively seek the information and then he evaluate the information about the new product, he compares it with the existing option. So, there are two options either he is going to accept or he is going to reject the idea or the

innovation. Now depending on which way, it goes will decide basically the rest of the things, then once a customer has accepted the idea.

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Stage	Definition
Implementation	In this stage the individual employs the innovation to a varying degree depending on the situation. During this stage the individual determines the usefulness of the innovation and may search for further information about it.
Confirmation	Although the name of this stage may be misleading, in this stage the individual finalises his/her decision to continue using the innovation and may end up using it to its fullest potential.

The next stage is the implementation or the adoption or we started using about it and customer starts using a new product or the new idea and then what happens he is able to form a opinion about it. So, because opinion is based on his experience and that will actually decide, whether in the future is going to really probably repurchase the product or he is going to discard that new product or the idea.

So, the last stage is about the confirmation. So, in this stage, although the name of this stage may be a bit misleading, but one can see that individual finalizes his our decision to continue using the innovation. And may end up using it to its fullest potential, So, these are the five stages of adoption. Now I just would like to emphasize here that one should understand the difference between an adoption and the diffusion is, while adoption is about related to individual's acceptance or the rejection of a particular new idea or the product of the service.

Diffusion is related with more of the sellers prospective, how a product is get diffused in the market. So, this differentiation should be clear in the minds of whomsoever is understanding, trying to understand this concept. Then the next stage which Rogers mentioned is, is something very important like, why a new product will get diffused in the market and at what rate will it get diffused in the market depend on the five factors.

And these five factors, I think extremely important for all new products, but this is a particular importance to entrepreneurial because they by definition have lack of resources or limited resources. So, if they understand this process, of these five processes or this five stages well, then they will be able to create their value propositions of their products and configure their product, look at the attitudes and future of their products a service, that will cause faster diffusions.

So, they can, optimize the features so that it suits to the market, as well as they can allocate the resources to commercialize the product in that way so they get the maximum value get extracted out of the absolutely innovation so the five characteristics of innovation that actually influence its diffusion in the market.

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Intrinsic Characteristics of Innovation	
Stage	Definition
Relative Advantage	How improved an innovation is over the previous generation.
Compatibility	The level of compatibility that an innovation has to be assimilated into an individual's life.
Complexity	If the innovation is perceived as complicated or difficult to use, an individual is unlikely to adopt it.
Trialability	How easily an innovation may be experimented. If a user is able to test an innovation, the individual will be more likely to adopt it.
Observability	The extent that an innovation is visible to others. An innovation that is more visible will drive communication among the individual's peers and personal networks and will in turn create more positive or negative reactions.

The first one is relative advantage, now the relative advantage is the differential between the existing option and the new option. So, how good is the new option with respect to the existing option comes under this category, the irrelative advantage, the higher the level are the degree to which new option is different from the existing option will decide how fast actually gets diffused in the market. So, if we talk about the basic concept of the marketing, the value delivered by a new offering is much higher than the existing options.

So, if let us take about any smart phone I phone if the next generation of I phone comes it provides significantly different features which excites the customers in a way that customer find it to be much improved than the previous version, you will see that that it get diffused in the market very fast. So, that is about relative advantage.

Now compatibility, is the level of compatibility that innovation has to assimilated into individuals life or if we talk about business market into the organization system that a firm has, how that the new option gets assimilated or how compatible it is with respect to the overall environment of the individual consumer or the existing systems in a firm. Now you can find, plenty of examples in the past, where a product might be a very radical and might provide sufficiently good idea.

But, you will see that it might not be very compatible with the existing system and that is where the customer find it very difficult to adopt the product and that is why the diffusion of some of the very good product is very slow in the market. Like as, we talked about the people in the certain age group or a particular type of customers, will find out to understand a new type of software upgrade and they find it very difficult and the new software upgrade might not be compactable with the existing other software, complementary software systems.

So, a customers will find it very difficult to manage the new software in this new situation, that will make this compatibility problem. As the same is true in the case of business market that, if a new technology, or the new product comes but it is not very compactable with the existing system of the organization, or the employees or the people who operate those equipment's or the systems, they find it this new option not very convenient to them this option will find it difficult to get accepted in the market. For example, I think, you know ATMs or Tele banking came to the western world much earlier.

So, there was a lot time that was spent and lot of persuasion happened for people to shift from the physical branch banking to relying more on ATMs and more on Tele banking. In India the ATMs, Tele banking and the internet banking all arrived almost at the same time, so in the western world the people took to e banking far faster because already people had with different types of guards and they were already used to ATMs etc. That means some amount of self-service technologies and automation.

In India, on the other hand we kind of leaped through the one stage, that is why the off take of e banking in India was rather slower because this compatibility issue, the backward compatibility is, So, physical banking to ATM banking to e-banking is a compactable progress, whereas physical banking to e banking is a lesser compactable progress.

That's why that pace was slower of adoption of that new service. Similar to this example, is the diffusion of ERP systems also, that in somewhere people find it very difficult that they can, the existing legacy system to be defined or their needs to be modified with the new ERP systems.

And that where this system find it very difficult or it was not compatible with the existing system of firm. So, compatibility was in each you there are also. Now talking about the third thing, which is complexity, now with new product or the new offering might be very good it might be compatible with the existing system of the customer however it is so, complex that cannot operate it or they find it very difficult to probably use the benefit from the product.

They will probably in that case also, it will get discarded or in the option will not get diffused very easily in the market and there are so many examples about it similar to what probably in many software it has happened, that software might be very good. But it requires people to again learn probably or acquire new set of skills and its very difficult and its very complex, it has a number of modules inside it and that makes it very complex, its complexity, the degree of complexity is very high, so in those cases also the diffusion will not be an easier thing.

And I think 10, 15 years back, when people really understood this, then many innovative new products which are inherently very complex but they understood, that the user interface absolute must be made very simple. So, if you take for example a camcorder or any of this personal movie cameras, they are very complex technology based and very complex execution if you open the box, inside I think these are most complex devices ever developed.

But, the user interface is so simple that even a child can use it, this emphasis that insight complex, outside simple, make the user interface as easy as simple as possible, This was a great realization I think 10, 15 years back that's why we see, all new products which may be inherently very complex, they rely on the simplicity of the user interface to increase the rate of diffusion.

So, the next basically, the characteristic of innovation is a Trialability, this is related to how easily a new customer, I mean the how easily innovation can be tried by the customer now you have an innovation which is good in all the previous three things, but it is not easy for the customer to try it, in that cases probably again it will find it difficult to the acceptance in the

market and that is where, we see that, in India we have seen this in consumer market, this packaging has a very important role to play, where the new shampoo or new products came in to the smaller packages, they were distributed freely to the customers, even in hand that enhance trialability.

So, it is very important at this point of time to understand also that if a new product fail at the trail at stage, then rest of its diffusion process and all the other marketing, planning process will not work.

Because a customer has to first try it and then if he tries any fear he is satisfied then probably he is going to think about the repurchase and recommending it to other but if trialability is not there, if that is not made simply, I mean that is not simplified, then the diffusion is going to be a difficult job.

I say that in the Rogers 5 factors, this trialability has been taken up by almost by all marketers very sincerely, because not only this introduction of sachet, I find that even a new generation car, utilizing the different new technologies and freely promote this, you know trail run or take go for a ride, sort of campaigns.

Because I think people have understood so, that is why when you go to a mall the marketers have understood if there are so many small kiosks, which are giving you opportunities to try out a new soup or a new kind of tea blend and or some new kind of jam or a food beverage and different personal care products, you know a new cream or a new deodorant or perfume they are they rely on this trialability a lot.

I just like to add or probably something which is going, what you are saying is proving that, marketers have taken it as very seriously is that, that we are talking about this physical seller, now if we talk about in e commerce also, there are so many companies in that space, they are trying that customers can virtually try the product. So, there are companies which are making the lens and the frames, they provide you the opportunity that you can put your face, in fact, they can capture your photo in front of the, if you are sitting in front of a device, you take photograph.

You can put different frames, you can try the different options and in fact that sometimes give you much more border option, that what a probably physical store will give. There are o many, basically e-commerce companies, which are working on this concept, that even people can try clothes, so if consumer provides the dimensions you can see your overall, probably how the clothes fits into the 3d space, so this trialability problem with different vendors or sellers they are trying to address in a different ways actually, so that this gets minimized.

I think you have made a very good point, that e-commerce companies earlier they were talking more about faster delivery, now I often see they talk about faster and easier return policy. That you know, people will just go out and pick it up from your house and it will live they did try to make it as painless as possible, even companies which are selling high value items, more specialty items like jewelry etcetera, on the internet, they are heavily promoting this concept of trial, free trial, in a people will come to your house, you try out something which costs, fifteen thousand rupees, you like it, keep it, don't like it, return it immediately, that sort of thing.

Because the entire point is let the customer try, if they try then only they will purchase. So, the last characteristic with which has a serious impact on the diffusion is observability of the innovation. Now what is the basically inside the observability is that, the extent that innovation is visible to others and innovation that is more visible will drive communication among the individual. So, this last thing, which talks about like how easily a new product and idea can be noticed by the people and how they easily it can get the communicated in the society or in the target market is about the observability.

Now, this is also important because something which does not get noticed will also be not, probably be tried out and then people will also not be able to basically, probably, judge it whether good or bad, so many a times it happens that with such a heavy promotion and the frequency of promotion, many times new product will limited budget, do not get noticed because of this thing that and that is why marketers are thinking of radical ideas in their communications.

Like how they communicate new ideas about the new product in a ways, so that it because from the customer point of view they have a very small time period to notice something and

in that time period how they are able to persuade the customer, so that is about the observability.

So, now moving to the categories of the adopters which we have talked about. There are five categories of adopters, each category of the adopters will have their own characteristics. So, now talking about the first characteristic, the innovators, these are those people who will have a high-risk tolerance, they have a tolerance to uncertainty, because whenever a new product gets is launched there is not of much of information about it available in the market.

And to judge it is always there comes with certain kind of risk, so these are those people who are ready to take that risk, they can deal with the uncertainty, ambiguity, and they take pride in being first to use, something yes, so these are the people who will probably flash their new phone or a new equipment they have and that is why you will also see these are the people who are closer to the scientific advancement also.

Now one thing I would like to emphasize here is, person one who is innovator for one product category, may not be innovator to the other product category, very important point, he might be anyone among the rest of the 4. So, it depends on the interest and different personal factors that also contribute to the innovators category, now with the innovators the next category is about the early adopters.

Now early adopters are basically, the opinion leaders, these are the people who will wait for some time, they will like together, will observe, they will observe the innovators, they would like more information to come and then they will judge. So, now you can understand their design making or their judgment about the product is more judicious.

And that is why, because of their, this kind of way they make their decisions, they have a high regard in the community which probably will follow, what these early adopters are the opinion leaders are doing. And I think, the current research shows that these innovators and early adopter are people who are also very active on the social media, yes.

They want to publicize the new camera they are using or the new place they visited or new restaurant they patronize and so on. So, marketers try to influence the early adopters or if your able to peruse them in a positive sense, then the word of mouth, is much faster, probably

more favorable to you. Then you have a, early majority, which is slower in the adoption process, have above average social status. And they follow basically, they are in touch with this early adopters, they follow them and seldom hold positions of opinion leaders, norm follower.

So, these are the people who will follow. These people are very important from your cash flow and profitability perspective because this is where, they are going to provide the numbers yes exactly. So then early majority and then this late majority, late majority are the people again, I mean they are important for you, because cash flow is again they will also provide you the numbers.

But these are the people, these last two category particularly, they will have a high degree of skepticism about the new idea or the product, they will not accept anything they will also suspicious about what is coming and they would like to probably see that this thing, the new ideas get proven in the market and they will also probably look in to the other early categories.

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Adopter Category	
Stage	Definition
Innovators	High risk tolerance, Financial might, Young minded (age), High social aspirations, closest to scientific changes
Early Adopters	Highest opinion leadership, Discrete & Judicious in adoption choices, Social creature
Early Majority	slower in the adoption process, have above average social status, contact with early adopters, and seldom hold positions of opinion leadership, norms follower
Late Majority	a high degree of skepticism, low in social status, norms follower, in contact with late majority
Laggards	Traditional, Aversion-to-change, lowest social status, exposure to outside world limited

So that they can follow them, they have a very less risk-taking capability from that point of view. And the last are basically the laggards. These are traditional people, highly risk averse, lowest, you can say, this is the way the interest is the way you categorize the market, they have the lowest social status in the market or in the that society. So, these are the basically the five categories of the, what you say, the adopters and related with this, when we are talked

about opinion leaders. Because from the marketer's point of view these opinion leaders are very important these are some of the characteristics.

And I think you have already explained that these are the people, this opinion leaders are the people which are very active in the social media and they have a very high influence in the network so talking to them and probably influencing to them could be a very good way of communicating to the rest of the market. So, understanding this concept of opinion leader helps you in diffusing your product better.

And earlier social media was not that active or has that not become, so, you know all persuasive, I think marketers use celebrities as a proxy, so they use celebrities to shape the opinion and show them as early adopters, to influence the early majority, but now a day's genuine users, are emerging as very powerful force on the social, because of this ubiquitousness of the social media, is you know everywhere, easily accessible.

And these are early adopters and these innovators they want to talk about their experiments in purchase and so, in many ways I see celebrity endorsements being replaced by focus on this community of early adopters and innovators.

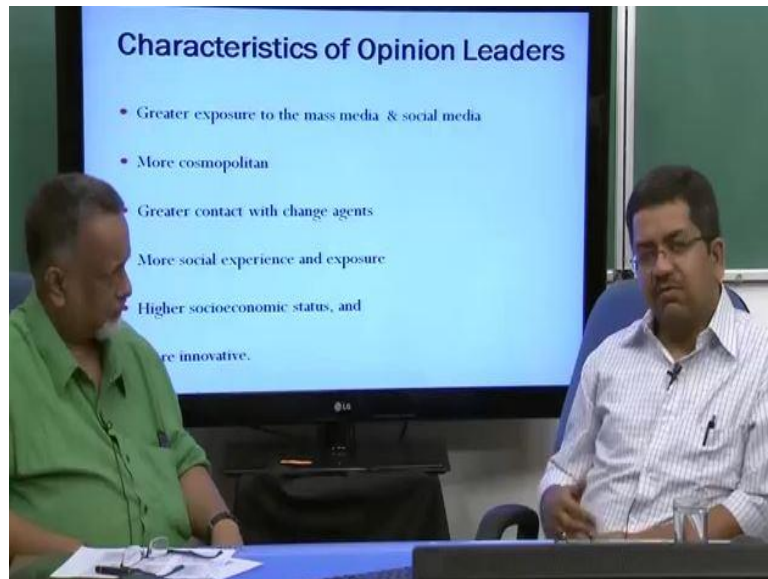
Because its more targeted to the relevant market, that you go to the market, or you approach to the customer, from the people, who are most creditable people, so if they talk about it, people are going to believe more about the product then probably, the influence of the celebrity or probably a mass communication method.

So, I see that for example, high risk products or complex products, particularly information appliances, people give a lot more credits to the comments coming from other users, so many websites e commerce web sites, they give the ratings given by other purchasers, many of them are these early adopters innovators and so therefore later buyers they give more value to that rating rather than you know which film star is endorsing that product.

Or, which you know, leader political leader is talking about that product or not. I give you a specific example of what you were talking about, just like we if you look at the trip advisor that is not a company, which is basically a seller in the tourism sectors. But they capture the opinion of the different travelers and at the same time, if you look at the reviews and the

comments of a fellow traveler or the tourist, the trip advisor will also provide about the information of the profile of the person who is commenting.

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So, you will understand whether this person is a very experienced traveler he forms an opinion and you can explain certain kinds of thing and then you can expect basically certain kind of credibility and that basically helps the customer to form opinion with more confident way, absolutely.

I think we have covered this concept of diffusion of innovation in this section, we will stop here and when we will meet in the next session and we will talk about the rest of the concept which are there in new product development process Thank you very much, Thank You!