

**Consumer Psychology**  
**Dr. Naveen Kashyap**  
**Department of Humanities & Social Sciences**  
**Indian Institute of Technology, Guwahati**

**Lecture – 12**  
**Memory and Learning – I**

Hello friends, welcome to this lecture number 12 on the course on Consumer Psychology. Now, as I had discussed before this course is divided into 2 main sections; section 1 we covered from lecture 1 to 9, where we looked at what is consumer behavior? And, how does the consumer make decisions into the marketplace?

So, we used EKB Model. The second section has 5 units into it and each unit is in 2 lectures. So, the last 2 lectures, we looked at one primary psychological factor, which is responsible or for consumers making decisions or for consumers behaving into the marketplace. And, that primary factor was called perception.

So, we looked at the factor of perception and how does perceptions help the consumer or the marketer for that matter, sell his product into the marketplace. Because, as I said that basis of consumer psychology is that consumers or people, when they are into the marketplace they are looking for products and product benefits.

So, basically they are looking for product benefits the benefits, that comes from products and how the product will have benefits is delivered it is delivered to product. So, they are looking for products. And, why are they looking for products, because there is a need that is generated and it need had to be addressed in a certain way. And so, these products actually address their needs, address their wants and desires.

So, quick recap of what we did in the last lectures we looked at perceptions and we look at how does some factors of perceptions? For example, the idea of threshold, the idea of fibers law, the idea of a lineman absolute and differential lineman and the idea of product size, product attractiveness. All those factors, which is product related factors. How do they shape the behavior of the consumer into the marketplace?

So, that is what we were do doing in the first lecture that is lecture number 10. And, further to that we also looked at the role of consumer, consumer perceptions as such.

So, there are some factors on the stimulus itself or the stimulus factors, which affects perceptions or behavior or modulate the behavior the consumer in the marketplace. And, there are some subject related or basically consumer related factors and so, those factors are stimulus generalization, stimulus discrimination. So, how does that consumer discriminate between stimulus, what is the process of organizing stimulus and so on and so forth. So, those are the other factors that we looked into.

Further to do that, we also looked at perceptions in a more wider sense and we extended our idea of perception into categorization of information, analytical versus non analytical categorization heuristic categorizations and so on and so forth. And, we extended this a little bit into perceptions of price, perceptions of brand value service quality and so on and so forth in lecture number 11.

So, this is lecture number 12, where we will discuss memory and learning and these factors memory and learning, how does the effect or how do they shape the behavior of consumers in the marketplace. And, also how do consumers or how does the marketer, if it gets affected by these factors. So, what role does these factors play into the marketer? What can they do for the marketer that kind of thing, why is memory important in consumer behavior?

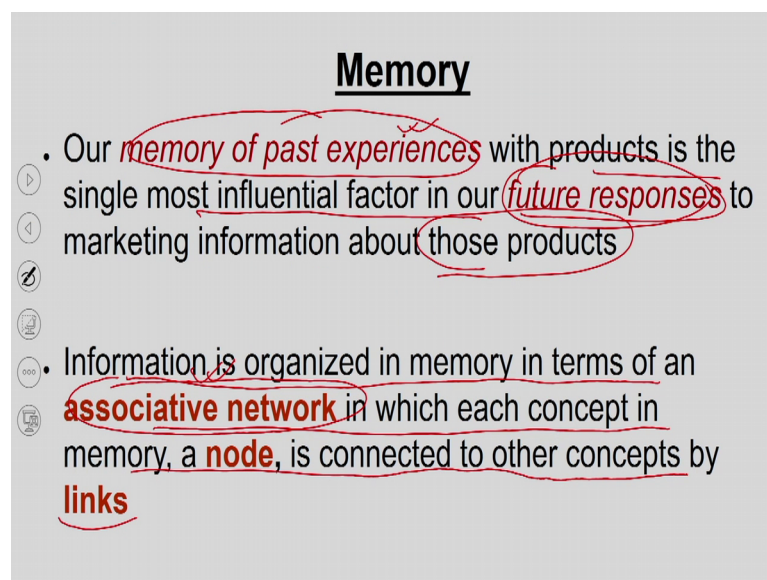
Now, let us take a quick example and let me explain to you. So, this person is lying down in his house and so, it has been a rough night for him. So, he is come from a party it has been a rough night. And, slowly he realizes that he is having a headache. And so, what happens is he goes to look all around the house and he does not find any medicine in on top of it there is neon lights, which is actually humming in some way and he has this headache. So, what does he do? He gets up goes to the nearest pharmacy. Now, in the pharmacy he searches for over the counter drugs and some of those drugs, which will cure his headache and he soon realizes that there are a number of brands which is there.

So, what does he do in a situation like that? He trusts his memory he trust his past experiences and through that he finds crocin or some other headache relieving medicine, which as he used before and why is that takes it and gets the relief. So, in the whole interaction that I just described, what really happened is that this person trusts his memory trust his previous information, previous experience, and based on that he makes the product choice and makes the final product buying.

So, this is the role of memory in learning in one memory and learning in consumer behavior. So, let us start our today's lecture on memory and learning behavior and in between what I will do is, I will also give you a quick recap of what memories?

So, in lecture number 12 we look in to focus only into memory and in lecture number 13 we will focus on to learning. So, within this purview of the lecture I will also introduce concepts from memory of what memory is what are the factors, which affected what is the organization of it and then relate it to the consumer behavior related to consumer psychology? So, what is learning and memory or what is the role of learning and memory in consumer behavior?

(Refer Slide Time: 06:09)



### Memory

- Our memory of past experiences with products is the single most influential factor in our future responses to marketing information about those products
- Information is organized in memory in terms of an associative network in which each concept in memory, a node, is connected to other concepts by links

So, our memory of past experiences with products is the single most influential factor in our future responses to marketing information about those products.

So, no matter where you go no matter what do you see in the market? Generally speaking most people trust their memory. And, how is this memory built up? This memory is built up by product advertisements that you see, marketplace product information that the manufacturer puts into in the marketplace, you get this information from word of mouth from relatives, you got get some of these the information by interacting with the web, interacting with people you do not know, sometimes you get this information by reading about it is only leaf leaflet us, booklet us all kind of places. And so, you collect this

information and store it into memory, memory you organize them and so, when you actually go into the marketplace what happens is you trust this memory.

So, the memory of past and at times it is the past experience also. Sometimes you have information about the product and sometimes you do not, but if you have of a memory of a past experience. This actually shapes or this actually lowers the whole search process and the evaluation process for you to buy a product and that that basically helps you in a particular way. And, I do understand the consumer in the marketplace is suffering so, much he has so, much information to process. So, much decisions to take. And so, the more easier you make the task for him the better the chances of you behaving in certain ways, the better is it for him. And so, those brands which lesser this information overload or this information of choice those are the brands which are preferred by people.

So, basically memory of past experiences determine, future experiences. And remember this could be both positive and negative a memory for past experience, which is very positive with a product. So, you use a product you find it very soothing very humanely and so, few in future you are going to use it. On the other hand you use a product does not satisfy you in any way, you again try it give more give it one more trial the rule of 3. So, 3 times you will actually use a product.

So, sometimes there are chances where consumer actually goes ahead and use the product say maybe 2 or 3 times before he describes it and there are times when the product actually hits him in a way. So, that he does not use it after one time. And so, this interaction this memory of the product consumption actually decides how he is going to behave in the future?

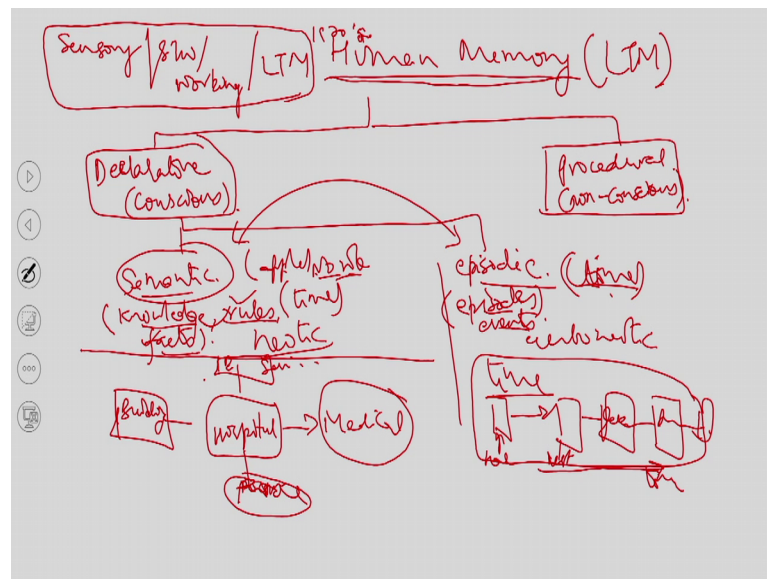
So, whether it is going to buy the product again or whether he is not going to buy the product again and that is what we are looking at. So, information is organized in memory in terms of an associative network in which each concept of memory, is a node and connected to other concepts by links.

So, let me before coming into how memory is organized? Let me first give you an explanation of what memory is in how is the organization of memory into the human brain? So, once you have that information you will you will come to know you will come to appreciate this associative network model and associate how this information is pulled out at the time of the purchase.



So, what really happens?

(Refer Slide Time: 09:22)



The human memory basically and we call it or when we are referring to it is basically the long term memory right. So, there are multiple types of memory, we have something called the sensory memory, we have something called the short term memory or sometimes it is called the working memory, and there is something called the long term memory.

Now, this is an very old conceptualization from the 1970s late 1970s to late 1980s, where we thought of memory as a 3 part system, which is short term then sensory store and long term. Nowadays, this conceptualization has changed, because they have a concept of working memory and this working memory is a part of long term every what will not go into this debate because this is not a lecture on memory.

So, this human memory that we generally talk about somebody has a memory of something we talk about the long term memory. And so, long term memory basically is divided into 2 parts. This long term memory has 2 basic divisions into it; one is called the declarative, division and the other is called the procedural division. And, this declarative is a conscious form of memory.

So, that kind of memory where you know you are doing something, searching for a particular product right, that is or searching for a product particular kind of information,

when you are aware of what you are doing, when you are aware that you are or remembering an episode with a product remembering an episode like a birthday.

All these kinds of memory are declarative in nature and because they are conscious in nature. What is conscious what is the conscious part here, that you know that you are accessing the memory? On the other hand you have the procedural kind of memory which is a non-conscious form of memory. And so, what is non-conscious for memory? Here, what happens is that you are not aware of what you are doing. For example, riding a bike or if I ask you to tell me how to ride a bike most people try, but they are not to do it because this is called muscle memory, this is called procedural memory.

So, you know the procedures how it is done, but it is very difficult to explain it. And so, the procedures are embedded somewhere and the procedures are carried out in a sequence.

So, you are not consciously aware, when you are doing it, but as soon as I make it consciously aware then things go wrong and so, there are 2 kinds of memory. So, since in this lecture on consumer psychology has nothing to do with procedural memory, and we do not have to focus on to it, we will just focus on the declarative memory. And, so, this declarative memory is further divided into 2 parts, we have something called the semantic memory and something called the episodic memory right.

So, 2 distinctions from the declarative memory itself; one is the semantic one, the other is the episodic one. And so, what is semantic memory? The semantic memory basically holds in itself knowledge, rules, facts, and so on and so forth.

So, what is semantic memory, it holds in itself things like knowledge. The knowledge that the sun rises in the east facts  $2 + 2 = 4$  rules, what should you do, when the when the light turns red in a highway, when you are crossing a highway and when you come to a signal, it turns out to be red, what does it mean signs and symbols? For example, a red plus what does it mean? The study of semiotics, everything comes under semantic memory.

So, semantic memory is about hard core facts it is about knowledge, it is about information, which is stored and the what other things about semantic memories of semantic memory is basically it is it is not fact related memory, it is it is not an episode

related memory. Now, what do I mean by episode where related memory? I will try and explain to you. So, if I ask you to spell an apple to tell me about an apple.

So, tell me about an apple if I give you this question or tell me the spelling of apple and so, most people will be saying a p p l e and so, this is the spelling of apple. And so, basically when you spell apple or when you spell orange or any other name by that matter, you do not actually think about the time when you learnt it for the first time. You do not think about those episode or the, that that particular time, when you learnt first what apple? You can basically output this knowledge or you can basically tell me this large without thinking about an episode or without thinking about particular event, which happened there.

In contrast to this appear the semantic memory is the episodic memory, which can which consists of episodes right or events, your shopping experience in the mall. Knowing your shopping experiences the mall is basically not a semantic memory it is an episodic memory, because it will have episodes in it will have light picture, sound the whole mall it must with the 3 D vision, you see yourself going in you see all the interactions and so, when you remember about it or remembering about your first birthday.

So, when you remember the memory which comes out of it is like an event, it has the time encoded facts and so, time is of utter importance here, it is auto neurotic kind of an experience. So, in episodic memory whereas all facts are time dependent or time encoded, in semantic memory we have no role of time.

So, no role of time mean encoding and that is why the consciousness here is neurotic and the consciousness here is auto neurotic. So, that is the first or the foremost difference. So, basically then focusing on the difference in the in the semantic you have this kind of knowledge, you have knowledge stored in it rules stored in it facts stored in it and so on and so forth. Whereas, in episodic memory you have episodes and events stored into it and so, the that is the kind of thing.

So, basically if you time travel if you travel back in time and think about something and those things have features of features of light, sound, camera, all kind of thing, then it is episode when you remember an event, which is going on true sense in it in a time bomb sense that is even memory. So, for example, remembering your first anniversary

remembering your, marriage remembering your, first childbirth and so on and so forth all of them are episodes.

Where a semantic memory is knowledge like how 2 plus 2 is 4, what where does the sun rise, what is the capital of Finland? And, that kind of information is semantic memory. So, both of these memories that have a great role to play in terms of product information and product acquisitions in consumer psychology, what has their role to play? And so, basically what we look at is we will focus here on 2 semantic memory, because mostly it is knowledge facts, rules, those kind of things which actually help a consumer decide on a particular product or a product benefit that he is thinking of.

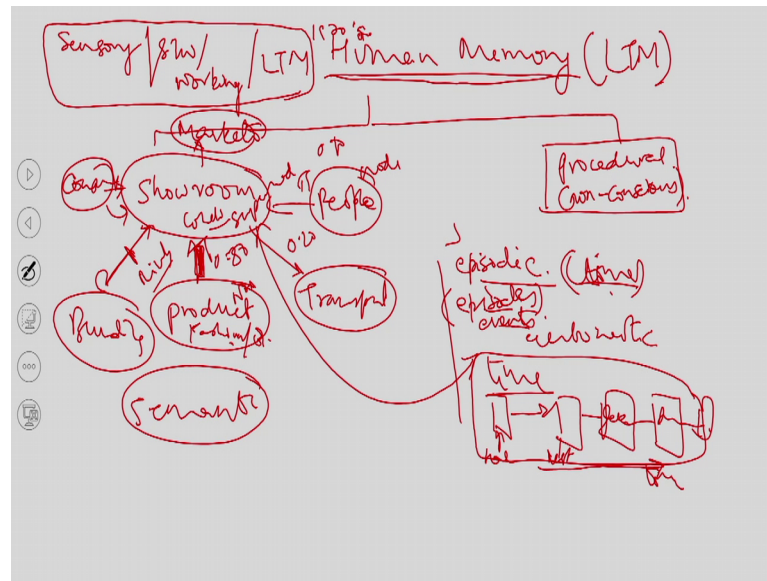
And so, for it for that we have to know how is the semantic memory organized? Now, episodic memory as I said is organized in terms of time. So, episodic memory so let us say, if there is a how you let us say we are describing a birthday event. And so, birthday event we will start with you entering into the birthday hall, then looking at visitors, then information about cake cutting, information about present giving and so on and so forth. And so, this particularly even event has a time axis on it or it is bound on time, and the time starts with you entering and with you existing the birthday party.

Now, in terms of semantic memory, semantic information is actually put in our semantic information is actually organized in terms of nodes and associated networks. So, for example, let us say the example of a hospital. How is this hospital linked? Now, this hospital is something with which a person remembers. Now, with it there will be several other nodes, which are linked with this hospital. For example, this is medical related.

So, hospital is a place which is related to medical, hospital is also a place where you see doctors, hospital is also related the, to the idea of building, hospital is also a place where is related to the idea of emergency services or sometimes food quotes. And so, this hospital is related to so, many other information. The word hospital or the concept hospital is related to so, many information which is there.

Let us see I can explain you in a better way. So, as I said this episodic memory is organized in terms of time, but the semantic memory is basically organized in terms of nodes. So, let us take another example. For example, let us say the word show room.

(Refer Slide Time: 19:41)



Now, this show room is a concept. This has a particular meaning and this show room is related to so, many things. For example, this show room is related to the concept of product right. So, show room is related to what kind of show room it is? For example, let us say it is a it could be a fashion show room, it could be electronic showroom. Showroom is also related to the concept of people, people working showroom and so on and so forth. And so, showroom is also related to the idea of consumers.

So, consumers come into showroom and they buy and showroom is also related to the idea of marketer, showroom is also related to the idea of transportation transport, show room is also related to the idea of building. Now, what happens is this showroom is related, when I say the word showroom it is related to so, many other words so, many other ideas.

And so, each idea that it is related to forms a link, this is called a link right. This is the concept or this is called an super node and these are called the sub nodes and these sub nodes have some relation or some kind of association with the main node which is the concept here. And so, the more closer; the word, the more closer one of these nodes is to the super node the higher the weight edge. For example, when I say showroom and if you think of showroom in terms of products, this will have a higher node or this will have a higher weight and that is why it I am coloring it in this way which means that it is highly related, the weight here is that says 0.80 closely related.

Let us say it is with transport showroom is related in a weekly manner and so, here the weight is 0.20 and this is related in a similar fashion and so, the weight here could be 0.10 and so on and so forth. So, different words are related to these central concept, these nodes are related to the central concept with a particular weight and particular node, which is related to it. And, what is it all about? It is all about the fact that when I say showroom what all comes to your mind.

And so, it is related to so, many different concepts relate associated concepts. And, these associated concepts carry a weight, the closer the quicker you remember or the more nearer you think, and many of these words are to the showroom the higher the weight it has. And so, that is the organization of symmetric memory.

So, semantic memory is then organized in this way, whereas, episodic memory as I said is arranged in terms of time. So, that is a brief description of how memory really functions and what is the organization and memory? And so, coming back to the original lecture that we were doing. So, information is organized in memory in terms of an associative network. And as I said that is the associative network the idea of showroom is the associative network, because it has a central concept which is called the super node which is related to some other nodes one by one and with a certain weight. In which each concept is a memory, in concept, in a memory is a node and is connected to the other concepts by links.

So, these are the links, this is a node this particular feature is called a link because it is relating and this link can be forward links and backward links. And so, this is how memory is organized and this is how things are stored into memory.

Another, interesting thing is this episodic and semantic memory have to be integrated together to think about anything. So, when I say my friend's party I can remember my friend's party in a time sequence manner. For example, the moment I enter who greeted me where I went from there what I ate and all those kind of things, but as you see each of these words each of these time frames, yes retrieve the particular word or it is associated with a particular concept or a fact for example, entering a house.

So, entering is basically a process and a house is a concept right or entering my friend's house. So, friend is a concept, which are semantic meaning house is the concept, which are semantic meaning going through or eating his cake. So, cake is a semantic is a

semantic word eating is a word and semantic word and so, all of these will be related together. So, this episodic memory cannot be entirely working on it is own until then unless it has a semantic concept.

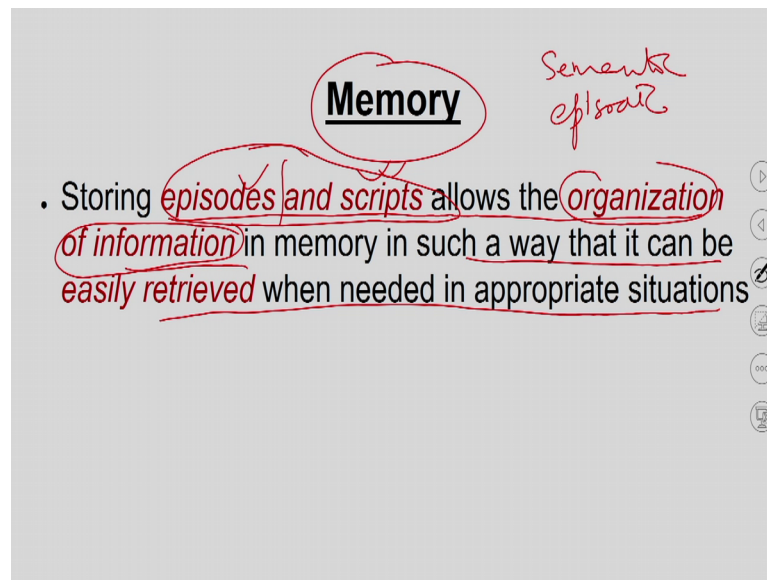
So, both the semantic memory and episodic memory, they gel together, or they combine together to form the or the overall idea of memory. And, this is where all experiences and thoughts of consumers are stored they access these. So, at the excess product information, the excess feature information service information from either the short term from either the semantic memory or from the episodic memory right.

And so, that is why the study of this is important because either it is stored as a network or it is stored as a time dependent feature. So, you can have for example, if you want or if you are doing an attribute based search, if you are looking at product which can help you in pain relieving right. So, you want a medicine which help you in pain relieving and so, several names will pop into and you want up and analgesic, that is what the key the key concept is or the per the product category name is.

So, you look for several analogous 6 in that time. And, so, here it is a attributes based search, because you are searching for analgesic and several names will pop up or you could have a brand based search or you could have a an episode search where you are looking for the you are looking for an experience out of it for example, water park.

Now, water park is not a product it is not a attribute based search, because the water park has an experience with it. And so, there are several things within the water park, the fun that you have the kind of food, that you eat and people around and so, many so, many other things. And so, when you are thinking with a water park, what actually as happening is you are doing an episodic base or you are a doing a product of brand based search that kind of a search is there.

(Refer Slide Time: 26:05)



And so, basically what then happens is people use this memory for actually storing information and accessing information and that helps them in taking decisions. And, it is also very important for the marketer to understand human memory, because if they do not understand this human memory, then the advertising messages that they are putting the product that they are putting in front of people, people will not understand what the product is all about and the product will be a failure?

So, it is very important for marketers to study memory or how do human beings go about memory? And, also it is also very important for the consumer to have to know about his memory or understand about his memory because only then, he can be sure that he stores product information or products related features into his memory. So, that he is interaction in the marketplace is less if his interaction is very high what would happen is interaction is very long or very high then there will be problems.

So, what happens is to narrow these 3 interactions, because no consumer wants to get into unnecessary hassles into the marketplace. So, he uses this method. So, storing episodes and scripts allows the organization of information in the memory, in such a way that it can be easily retrieved when needed in appropriate situations. And so, what happens is one way of storing memory.

So, both ways of storing memory either using the semantic network or the episodic memory network actually helps consumers to retrieve information when needed. So, they



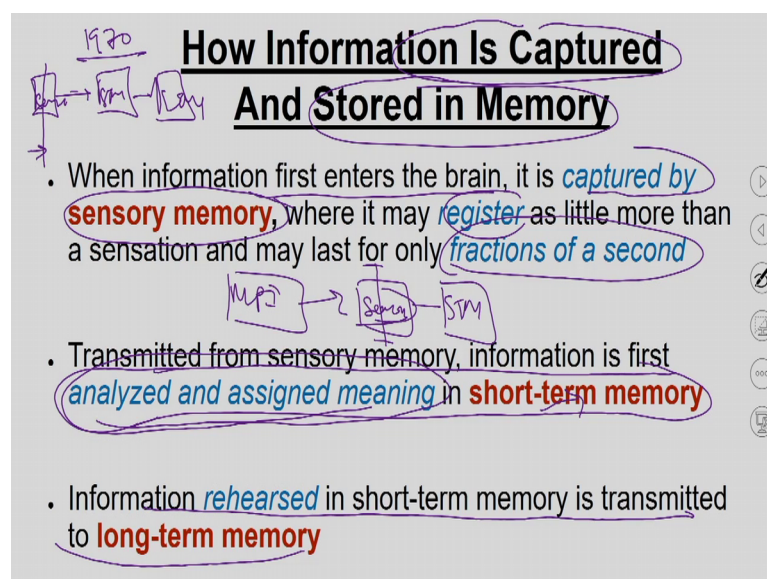
store the store information as I epistles or scripts. Now, scripts are basically what a script? Scripts are a form of form of knowledge, which is arranged in a sequence.

For example, the script of going to a restaurant, now what does the script of going to restaurant? The script of going to a restaurant starts with going entering the restaurant the first course, seconds course, third course, eating the waiter coming to you. They, then finally, paying the bill getting out the restaurant and that is the script of restaurant. So, script basically that that way script is used for storing information.

So, basically information is stored in these 2 forms and this helps in the organization of information, because if you know what a new incoming information is what is the new incoming information, you will be able to store it in a better way. For example, you have you need a particular kind of products or you need a particular kind category of production leading a medicine, a new kind of medicine comes in it will be very easy for you to store that medicine. If so, so you are needing a headache medicine and so, headache medicines generally a analgesics.

So, it will be very easy for you to store the new medicine in under analgesic. And, that way we will remember it much better, because what you will do is you will store under analgesic you will categorize that into analgesic in the semantic network. And, then by using it experience, which comes with you store it as an episode. And so, there are 2 links to it and so, it is easily retrieved.

(Refer Slide Time: 29:01)



So, how information is captured and stored in memory? What is the process of capturing information, market information, and what is the process of storing it into long term memory? So, when information first enters the brain, it is captured by something called the sensory memory right. And so, where it may register for a little more than a sensation and may last for only fractions of a second. So, as I said or as I described to you previously that the conceptualization of memory, that was done in the early 1970s was in terms of something called the sensory memory, we have something called the short term memory, and we have something called the long term memory.

And, the idea was this sensory memory can take in information from the external world for a very brief period of time and that is what happens. When you go into the market place a lot of information is fed on to you, a lot of information falls on to you, but you channel yourself, you use attention to channel yourself to look at only some of this information and that is what is called sensory memory.

So, the that memory which captures all information from the market place for very very brief period of time fractions of second is called short term memory. Now, this information the short term information or this memory the all product information all marketplace information, which is falling onto you is filtered by something called attention. And, if it is and then it is transmitted to something called the short term memory.

So, transmission from sensory memory information is first analyze and assign meaning in short term memory. So, in short term every what happens is there is a lot of information. So, you have this market place information and this huge market place information falls on peoples sensory memory. Now, the sensory memory it can store in a lot of information, but then this lot of information stays for a very brief time.

And so, there is something called a process called attention, which basically decides, what information goes and what not and so, in our terms it will be what you want your need will decide what information you want to go. So, you go to the market place there is so, many things which are being sold right, but you then decide what you want to buy and that is called filtering out that is called attention.

And, then you look at only the relevant information. And, when there is the relevant information goes from the sensory memory or is processed further, it goes into come

something called a short term memory. And, the process here that process of analyzing and assigning meaning to marketplace information is basically transferring memory from the short term to the sensory from the from sensory memory to short term memory.

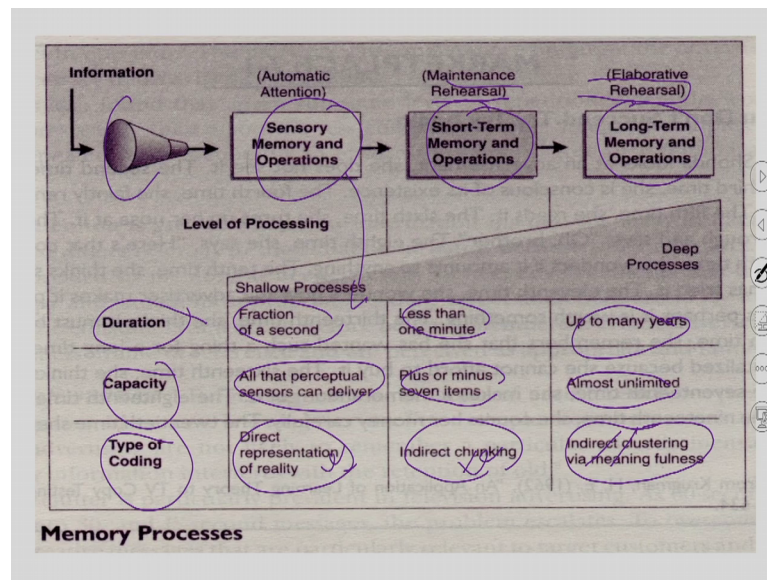
And, once information is rehearsed in short term memory is transmitted to long term memory. For example, you go to in the market place, you have a particular need to buy a particular product, you think you look at that you filter out all other information just look at that particular product that is there and then you maybe think is get more information about the product, start interacting with the product, in certain way get involved with it and use it, like it, and that way it is rehearsed.

The product information is rehearsed or you ask more questions about the product and the shopkeeper keeps on answering and so, the more rehearsal is done about that particular product, particular feature, particular service, and so on and so forth. And so, this information when it is repeated, when a number of interactions is done, when a number of questions are asked and the information is repeated in a closed loop, what will happen is it will go to something called the long term memory and this information will be stayed.

Those information, which is not rehearse. So, you see something attracts you in the marketplace, you go there look at it and then do not rehearse it, and do not remember it, or do not ask questions about it, that information will fall will be forgotten, it will be go away going away from a short term memory, it will not go to long term memory I will never remember it. And so, marketers have to be very sure that product information that products, that services, that they are providing should have that much power to capture the short term memory. And so, it should be in present in such a way that should elicit rehearsals in short term memory.

So, that the in the information that they want or the product related features that they want to get stored into long term memory. So, then the next time when the consumer is in the marketplace, the he remembers that this is what I am going to buy and so, he buys the product.

(Refer Slide Time: 33:18)



So, quickly looking into what it is so, this is the idea the information enters through automatic attention into something called the sensory memory in operations, and from there it goes to short term memory, and then from elaborate rehearsal there is 2 types of rehearsal maintenance rehearsal and elaborative. For example, information which is of known to which is are very poor need to for example, things like restaurant names right or the idea that you have to take an elevator to the first floor and maybe an escalator to the second floor.

Now, these kind of informations are some product name from some brand name or some other information, which you do not need to repeat every time that is called maintenance rehearsal, but then. So, certain restaurant name which is or certain food in a restaurant which is have actually attracted you or it has done something for you it has served in a certain way. So, you as attained meaning to it you assign some kind of a meaning to it. So, basically the processing of information as I said in previously that that occurs to 2 different processes, there is something called maintenance rehearsal and there is something called elaborate rehearsal.

Now, in maintenance rehearsal what we do is any kind of information is just repeated as it is. So, example if I give you the word apple and I ask you to repeat it you will keep on repeating the word a p p l e; a p p l e and that is enough for you. Now, if this apple is of importance to you if you find that this is important. So, I say that this is important to you.

What will you do you will relate this apple to an incident in your life and that way provide it meaning or this a p p l e no more stands as 3 as 5 letter word it is related to a particular episode, you remember the birthday in which you were given golden apple.

So, you where remember that incident when you went to Shimla and had apples and so, now, the apple is related to that incident and so, this is called elaborate rehearsal a p p l e is not a p p l e anymore. It is related to a particular incident particular meaning particular meaning has not provided to it. And so, it has more chances of being repeated more chances of being stored and that is called a elaborate rehearsal.

Now, let us quickly look into what happens, in terms of duration, in terms of capacity, in terms of coding. So, in terms of duration sensory memory here information stores of fraction of a second all that perceptions and sensory process can deliver the capacity is and it is the direct representation of reality. Now, in this case it is less than a minute plus or minus 7 items and indirect chunking.

And, in this case up to many years so; the duration is almost unlimited in terms of capacity and indirect clustering versus meaningfulness that is the type of coding. So, you are a direct representational so, raw form of coding indirect chunking. So, here you just get basic information in terms of rehearsal. So, information is not attained any meaning as I said it is maintenance rehearsal. So, you just remember it apple as a p p l e and so, no meaning there. And so, in indirect chunking and if you assign apple into a particular episode into your life or some kind of meaning to into your life, that is called indirect of meaningful storing of information.

(Refer Slide Time: 36:21)

### How Information Is Retained in Memory

- **Retention** can be defined as the amount of material previously learned that is remembered
- How retention is influenced by incoming information
  - Repetition – Repetition of information increases the chance of retention and strengthen consumers belief regarding incoming information
  - Relevance – retention is greater when new information fits into array of stimuli the consumer considers important

So, how information is retained in memory, what is the process of information retention into memory? Now, retention can be defined as the amount of material which is previously learned and remembered. So, how is this information, what is retention is basically what you learned, and what you remember from a particular episode, for a particular interaction into the market place, how that is what is called retention.

So, how is retention happening? How retention is influenced by incoming information? So, all kind of information incoming information affects or retention process how much information that you retain from what you see into the market place? And, then you remember also at a later point of time.

So, it is affected by something called repetition. Now, repetition is information the repetition of information increases the chance of retention and strength consumers a strength of consumers believe regarding incoming information. So, what happens, if a information is repeated n number of times, if a information is repeated many number of times. What will happen is the chance of retention it will increase.

And, that is why you see ads over and over again you see so, many ads you see so, much information in about products, and you see it over and over again the more you see them better you remember. What happens is then it attains meaning it is temporary in the short term memory; it is getting a number of rehearsals. And, that is why it is attained meaning or it is pushed into the long term memory also the more repetition happens the strength

of consumers believe in of the brand or of the incoming information increases. So, more number of times a ad is presented the higher the strength of the person remembering.

But, do remember there is a point of no return here. There is a diminishing return law here, what happens is if an information is repeated for a long period of time, what will happen is the consumer will hate it and skip it. And so, there is a certain time limit that you have to identify beyond which repetition is not good. Also repetition of information or information those are very directed to the consumer. So, if it is pain medication that is what is said into the in into the message, that is better remembered then repeated information with vague kind of inform, vague kind of believes or vague kind of information into the advertisement.

So, if the information in the advertisement is very pointed directed to a particular feature, directed to a particular benefit the consumer is looking at, that is better remembered in terms of repetition, then those information which are vague in nature right. The second factor which influences which basically influences the retention in memory is relevance. And, what it is that retention is greater, when new information fits into error stimuli that the consumer considers important. And so, when you when a marketer or when a market place information fits into an information that you already have in your memory.

Then you remember it better, then when it contradicts in certain way. For example, if you know about a coffee brand and you like the coffee brand and a new information comes to you, saying that the coffee brand has done a brand extension, which basically means let us come up with a new flavor this information will be retained with a higher chance into your memory, then information which is vague.

For example, the idea that this brand is also now exported to some other country so, that is not what is needed, because coffee is something which has certain kind of a need and so, if that is related to it the idea about that brand extension is done a new flavor comes in is more important, there is more relevant, then information of where the company is extending it is market to, what are the factors that help us completing information.

(Refer Slide Time: 39:55)

### How Information Is Retained in Memory

- Competing information – previously learned message is forgotten when new learning occurs
- Completeness of information – Zeigarnik effect suggests that if the message is incomplete people will attempt to retain it for future completeness
- Time – forgetting happens as a logarithmic function of time elapsed since the information was learned

So, when previously learned message is forgotten, when new learning occurs; except sometimes happens that cons marketplace information are competing. So, it is new information basically blocks your learning of all information this is called completing information.

So, advertisement comes in with a particular kind of a message and later comes with the contradictory message or some other info brand also comes up with the same kind of information both of them will complete each other, we will create something called attractive innovation. And due to that you will forget the original ad and so, that is what is called completing information.

So, competing informations or lessen the chance of message retention into memory. Completeness of information; now there is an effect which is called the Zeigarnik effect in psychology, and what does Zeigarnik effect actually say? Now, Zeigarnik effect basically suggests that tasks which are left, which are left and complete, people tend to complete it the pressure of completing it is very high. And so, Zeigarnik effect is something that you actually see in rest transfer and what you see is that, if a waiter takes an order he takes the order of your table only and he is there and or he serves you till the point of time that he completes the order.

And, if he does not do that if he takes 2 orders in between what will happen is you will never be able to complete the task and so, the pressure will be high and actually



Zeigarnik effect were discovered in a restaurant only. And so, when information is not complete, it is given partially to you people try to complete it or people try to complete that information and wait for that.

And, sometimes this is this particular factor of information retention of completeness of information is what is used by marketers? And what they do is, they will provide half of the ad the beginning of a movie or beginning of a series and the other half the more important half and then later of the series.

So, the consumer waits for the whole ad to finish and so, this curiosity this completeness of information the tendency to complete the information or what is being passed. Actually makes them curious. And, since it is curious the chances of remembering this information is very high. And, that is why you see ads of BMW where bits and pieces of information.

Nowadays, 1 plus 6 is coming and so, what you see is bits and pieces of information about this about this product is given to you, and it says next week more next week more kind of a thing. And so, you wait for that and so, the complete to complete that process of knowing everything about it, what happens is you wait for it and there is more pressure onto you and Zeigarnik effect suggests that the more pressure it is.

So, if a message is incomplete people will attempt to retain it for future completeness and that way it will be remembered higher and the last factor is called time. So, forgetting happens is a logarithmic function of time, elapsed since the information was learned. And a forgetting is another factor, what happens is initially the forgetting is very high and later on the forgetting is very low.

So, a brand where information which is given to you, if it is not repeated enough what will happen is you will forget it, but if enough number of repetition of the brand is given, what will happen is wait time, you will forget something about it, but most of it will be retained because the curve of forgetting. So, if this is the time axis that curve of forgetting has a logarithmic function. So, it becomes as impotent over here. And so, in the initial first minutes this is the time and this is the percentage forgetting, what you will see is initial defecating is very high with the first 30 minutes or 1 hour the forgetting keeps on attaining a Plato. And, then it becomes a sympathy to the x axis which basically means that forgetting is no more after that.

So, initially when you are learning a new product information, when a sub new information is added to or new power market information is coming to you it should be repeated. So, that forget this forgetting effect can be taken care of how information is attain with memory.

(Refer Slide Time: 43:40)

### How Information Is Retained in Memory

How retention is influenced by the information recipient

- **Consumer motivation** – motivation consumers *process information at deeper levels* of memory and *retain it much longer* with *higher accuracy* than unmotivated consumers. Motivation at *exposure* *influences level of retention*.
- Motivated consumers engage in *directed learning* rather than incidental learning which leads to *higher goal-directed learning*

So, those were features related to the stimuli here there are certain features of the informant, the recipient. The those are the features of the incoming information, which actually helps you into in memory. So, retention is also influenced by information recipient so, some factors of the information recipient for example, consumer motivation.

So, motivation motivated consumers process information at deeper levels of memory and retain it much longer with higher accuracy then unmotivated consumers. What does it really mean? It means that consumers who are actually motivated to are a product. For example, I am one of those people who was waiting whether 1 plus 6 to come in and so, once I am so, much interested into it I am so, highly motivated to buy it any information which comes about 1 plus 6, I process at a deeper level.

I go into the information, I try to search more about the information and I do n number of repetitions of it and so, it is remembered for longer duration of time, it is remembered for it is if the chances of it being remembered is very high. On the other hand and so, not only very high or retained for longer period of time, there will be a higher accuracy of remembering that information.

Similarly, unmotivated in comparison to unmotivated consumers so, motivation at exposure influences level of retention. So, how much motivation, you have at the time, when the first time or the first interaction with the message comes in or the first time you see the message that we will decide. So, highly motivated consumers when they in get an information for the first time, they retain high levels of accuracy, they retain most part of the information.

But, at the time of the first message coming in or the first interaction with the message is the motivation is very low, what will happen is a lot of information will not be covered. Motivated consumers engage in something called directed learning rather than incidental learning. So, motivated consumers what they do is what is incidental learning and directed learning. So, in the next section we will look at learning.

So, incidental learning is learning something by chance. So, you been a market place you see something you learn about it. Directed learning is you actually go into the product you understand the product you, ask questions about the product interest is directed learning. And so, motivated consumers actually do something called directed learning and this intern leads to higher goal directed learning. So, you whatever you want to buy so, now, I am going I want to buy, my 1 plus 6 and that is why what I am doing is I am doing goal directed learning I want to buy it.

So, I am looking at his features, I am learning all those facts that are there in there, whether it is aperture size whether it is the notch thing that is coming up and I try to look at all those features learn about all those features I am doing a directed learning, and a goal directed learning and a deeper learning, and that is why I am the information about this product will be with me for a longer period of time.

(Refer Slide Time: 46:16)

## How Information Is Retained in Memory

How retention is influenced by the information recipient

- Consumer's mood – positive mood enhances the encoding of information in memory
- Consumer familiarity or experience – familiarity effects retention as – a) familiar consumers are more likely to remember new information and b) familiarity improves memory organization (attribute based vs brand based categorization)

So, other factors which help in retention of information into memory, which is information recipient, which basically means that the consumer factors is consumers mood. Now, positive mood enhances the encoding of information in memory. It is believed that the consumers mood at the time of getting the information at the time of interaction into the at the time of interaction into the marketplace. How his mood is that will decide. So, better mood people when they have better mood, they have a higher chance of learning information or learning information about products or retaining information about products. Then people who have a negative mood.

And, also other factor is consumer's familiarity with the experience. Now so, familiarity is another factor which affects retention, as familiar consumers are more likely to remember new information. So, people who are familiar with the product or product class or a particular kind of brand class kind of a think.

So, if you are familiar with the kind of product that you are wanting into the marketplace. The more familiar you are the higher the chances of remembering new information about the product because you are familiar with it and so, any addition to it will be so, you are familiar with a with the camera of Nikon camera say DSLR. And so, something new gets in from added to it from new information gets added to it, it is easier for you to attach this new information on to the older information, which is there in memory.

Also, familiarity improves memory organization and what happens is if you are familiar with the product, then it will be easy for you to organize the new information into you are already memory into already stored semantic memory. And so, this basically this kind of organization there are 2 kinds of organization, which is there of in new information in the marketplace, you have something called the attribute based.

So, I have discussed what is attribute based, if you are looking for a product based on a particular feature, it is called attributes built organization, but if you are looking for a product based on brand based feature. So, if you are looking for a product from Nike. This kind of search or this kind of organization or this kind of storing of memory is called product based organization. So, several factors consumers mood consumers familiarity and consumer motivation are several factors, which actually help in retrieval of information. So, how is the information retrieved from memory?

(Refer Slide Time: 48:25)

## How Information Is Retrieved from Memory

- Retrieval cues
  - Information **retrieval** is determined mostly by the particular retrieval cues available at the time
- Interference from competing cues
  - Marketers can inhibit the consumer's ability to recall information on competing brands from memory

How, does the information retrieval happen from memory? Now, information retrieval happens in terms of retrieval cues. So, information retrieval is determined mostly by particular retrieval cues available at the time. So, more the retrieval cues or that you have at the time of an information is being retrieved, the higher the chances of you retrieving that information what does it really mean? When you are into an experience, when you are into the market place, and when you remember some info asking some questions

about the particular product, then certain links are there or certain kind of facts are there. And so, for example, you are asking about a camera.

And so, when you asking about the camera a certain other information he gives for example, say that this camera is manufactured from Japan. And, certainly information for example, it is different from some other brand let us say, if these are 2 or 3 links that he said to you, which was not related directly to the camera, but extra information which was there.

Now, the chances the more the chances that you remember these extra information. The higher the chances that at a later point of time, you will have this retention of memory or you will be able to remember this memory, or retrieve this may retrieve this information from memory. So, more number of cues and cues are like locks or cues are like keys to locks, the more number of keys that you have the better the chances for opening the lock that is what it is. So, any information whenever it is stored so, any information that I am storing all related facts to it; all related additional facts to it or act as retrieval cues.

And, as explained before these retrieval cues have a weight of their own. The closer or retrieval cue is to the actual information the higher weight it has. Now, into in interference from competing cues, what can happen is if 2 cues are the same type, if 2 information or 2 additional information for a bit of information for a bit of memory, that you have are same or similar in nature they compete with each other and cause some kind of a forgetting or interference.

So, for example, if you are looking at the toothpaste and 2 toothpaste offer you the same kind of herbal information which is there, they will compete with each other you will forget the actual brand. And so, sometimes this is used by marketers as a technique as a technique for you to forget your original brand. So, interference from competing cues marketers can inhabit the consumers ability to recall information on competing brands from memory.

So, what the marketer can do is, he can play this trick around can create interference, can provide similar information about competing brand and that will interfere with the original memory that you have or the product brand that you are trying to buy. And, since there is too much interference what you will do is, you will do the simplest task of getting the first product which is in available to you.

So, the marketer who does not want some other product to be sold he will put his product there and actually put information which is competing to that information. So, both information occurs to your favorite brand. And so, what you will do is then there is too much competition forgetting we will happen there is too much interference and so, you will select the brand which is available in front of you and that is one way of retrieving information from memory.

(Refer Slide Time: 51:29)

The slide is titled "How Information Is Retrieved from Memory" in bold black text. Below the title, there is a bulleted list. The first bullet point is "Consumer's state of mind", which is circled in purple. The second bullet point is "A consumer is more likely to recall product information if his or her mood or level of interest is similar to that of the environment in which the information was first learned". The words "mood or level of interest" and "environment" are highlighted in blue. Below the second bullet point, there is a handwritten note in purple that says "Context effects Memory". The slide also features a vertical toolbar on the right side with icons for navigation and editing.

### How Information Is Retrieved from Memory

- Consumer's state of mind
  - A consumer is more likely to recall product information if his or her mood or level of interest is similar to that of the environment in which the information was first learned

Context effects Memory

Also consumer state of mind has a lot of role to play in retrieving information from memory. For example, a consumer is more likely to recall product information, if his or her mood levels of interest is similar to that of the environment in which the information was first learned.

So, if we learn information in a positive environment, then your chances of you learning or recalling that information will be very high, then in some other environment. For example, a new kind of product was introduced to you, in a very good showroom, with a very good attribute, with a very good lower music fruity smell and all kind of all kind of familiar information or kind of positive or environment. Then, when you visit the showroom again the chances are very high that the information that you learned previously will be retrieved back there in that particular same environment, but if you are trying to remember the same info information at your home, the chances are very high.

And so, this is called context dependent memory learning. So, what happens is if I recall happens in the same context in which a learning happened, the chances of recall is very high, but if it happens in a different context, what will happen is the chances of learning that information or remembering that information very low.

So, look at something called context effects in memory. And, that will context effects of memory and that I think will help you in understanding this features. So, context has a lot of role to play in terms of retrieval from memory.

(Refer Slide Time: 52:55)

**Storage in Memory**

- Recall of **numerical** coded information is better than **verbal** information. (Handwritten note: 26's number for ab)
- Surface-level processing** refers to storing information as is, **without analyzing its meaning**.
- Meaning-level processing** stores the **meaning of the information**, not the "raw" information per se.
- Consumers should be encouraged to process advertising information **meaningfully**.

(Handwritten diagrams: 26 | 5-9, 26 | 26, 26 | 26)

Now, storage in memory also some very interesting fact here information, which is numerical so, how is information, product information, or marketplace information, stored into the memory. So, recall of numerical coded information is better than verbal information. And, that is one reason of your number plates has for both digits and as well as letters on to it.

Now, letters you know are 26 in number whereas, digits are from 0 to 9 digits right. And so, remembering 0 to 9 digit is easier than remembering 26 different letters, because 26 different letters will have 26 factorial types combinations, but here only 9 factorial day or not even 9, 9 different versions of the letters are there.

And so, what happens is letters which are pneumatically in number it is easier to remember and so, facts when presented in terms of number. Let us say consumer puts



facts for example, 30 percent off, that is very easy for you to remember that that product has 30 percent off, but if saying if this information is presented to you in a verbal format saying that a lot of one-third of the information or not, even one-third let us say that some part of the thing is off and that kind of a verbal information is given to you. Or even this information 30 percent off is written to you rather than the word 30; 30 percent rather than, if I write 30 percent off the chances are 30 percent off the chances of you remember this information will be very low.

Also, what happens is storage in memory happens in terms of surface level processing. So, storing information as without analyzing the meaning and so, as we saw in short term memory what we do is we do surface level processing? So, here information is not attached any meaning it is remembered as it is in the usual format. And so, it is just repeated no meaning and certainty to it and that is called surface level processing. Now, in meaning level processing, we have discussed before what happens is storage of information happens in terms of meaning of the information not the raw information and so, our meaning it attach.

So, if apple is attached to a particular life incident or a life process or a particular other incident in your life or a particular other concept which is there, it is attaching meaning to it apple has a meaning to it, but then just repeating a p p l e is actually apple or for that for that matter phone numbers. So, when somebody gives you a phone number and if it is of no importance to you we will just repeat it the number s digits, but if the number is of some somebody or important to you maybe your girlfriend what you will do is, you will retain this number or you will assign this number as a girlfriend or that kind of a thing and that way it is easier for you to remember that number next time. So, a girlfriend the number comes to you, and that is assigning meaning or deeper level as the processing.

Now, consumers should be encouraged to process advertising information with meaning meaningfulness. And so, what marketer should do what product manufacturer should do is they should encourage people to remember information or to store information with meaning in their memory. Because, if meaning is attached then there are higher chances of being retrieving that information, because the process will be no more surface level, but it will be more off meaning level information.

(Refer Slide Time: 55:53)

The slide is titled "How Memory Can Be Artificially Reconstructed" with "Source confusion" written above it. It contains two bullet points:

- **Imagination inflation:** when recently generated images become accessible in mind, people forget the source and retain the new images, overshadowing images from the past
- Consumer post experiences can be overshadowed by advertising messages

Handwritten purple circles highlight "Source confusion", "Imagination inflation", "recently generated images", "forget the source", "retain the new images", "overshadowing", and "advertising messages".

Now, another interesting thing that happens into the marketplace is memories can be artificially constructed. And, at times memory can actually be artificially constructed in the in the market place. So, there is something called a phenomena called imagination inflammation. And, what happens in this? When recently generated images become accessible in mind people forget, the source and retain the images overshadowing images from the past and this is called imagination information.

So, when new information or new image is added to some other image which is there and people become something called source confusion happens. What is source confusion people forget, where they actually learned about that information? Where they learned about that image, where is that image related, what brand it is that related to?

So, if people suffer from source confusion or while doing something called source monitoring people are not able to locate images or locate that source from where the information comes in, new newer images take place of the older images, and due to this overshadowing of images from the past happens. And so, what happens is when people are not able to source locate and information. The new information retains or new information rights of the older information and or overshadows the old information, and something called imagination inflammation or imagination inflation happens.

Also consumers post experiences can overshadow can be overshadowed by advertising messages. And so, what can happen, what can happen here? Let us say that you went to a

restaurant, you went to let us say the pizza hurt. And, when you eat the pizza you did not find it that met compelling, you did not find it that much interesting.

And so, you decided not to visit it again, but when advertising was put forward when new advertisement was put forward, in the new advertisement what happened is a pizza was shown to you with pizza hurt. And so, on top of it was cheese that was shown to it was cheese flowing from all size.

All kind of new information was put to you and when this information is repeated a number of times; what happens is that you forget somehow forget the original experience and this is called memory reconstruction. So, what the marketer has done is he is reconstructed your memory, what he has done is newer information is added to it. And so, you start believing that pizza hut is a good house. Although, your experience into the marketplace suggests that you did not like pizza hut, but since this information this bombarding of new information means bombarding of the cheese and flowing onto the pizza and this new information, which is put on to you from the marketer through advertising onto your head.

Now, you start believing or you reconstruct your a original memory into believing that pizza hurt is a good place for having pizza. And so, that is another interesting thing that can happen into the marketplace.

Now, what we did in today's lecture is that we looked at what is human memory? First of all we decided or we dwell on the factor that how is memory important for consumer behavior? What is the role that memory has in consumer behavior? And, I explained to you the organization of human memory and we looked at how memory is retained, memory is stored, and memory is retrieved, what are the process of retrieval and so, what these process each process one by one and each factors one by one how they actually influence the behavior of consumer into the market place, what role do they play in terms of consumer behavior in the market place?

Now, not only from a consumer point of view we also do that from the advertiser point of view, what they can do what they can learn from the way in which memory is organized from the way in which human memory is conceptualized or the way in which human memory is working what can happen.

Additionally, we look at some of these factors with recipient which factors as well as indeed as well as information waves factors, which help us in storing in retrieving and in processing features and or information into the marketplace. And, lastly we looked at something called a new item, which is called recons artificial reconstruction of memory.

So, what can a marketer do to basically reconstruct a memory to reconstruct an experience to do imagine and imagination inflammation into the marketplace? So, that the consumer forgets the original information original bit of information and learns a new part of information as such. Now, in the next lecture that we are going to do we look at something called learning, we look at factors of learning and we are also see how this learning is connected to memory.

And, what factors of learning actually helps the consumer make better decision to the marketplace and how does learning help the manufacturers to put their in information into the marketplace? So, that this information is worthwhile to the consumer and how does learning as a whole as a cognitive process and psychological process basically modulates consumer behave into the marketplace and decides consumer behavior. So, this is for now in today's lecture.

Thank you.