**Marketing Analytics**

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**Lecture 08**

**What Consumers Want (Contd.)**

Hello, everybody. Welcome to marketing analytics course. This is week two that is going on and this is the session two which will be a smaller session than the other, other sessions that we have taken.

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And here we are discussing about what consumers want and this is Dr. Swagato Chatterjee from VGSoM IIT, Kharagpur who is taking this session. So, what consumers want? I discussed about how you can use consumer review data, what where consumer express themselves out in actually finding out what they are asking for.

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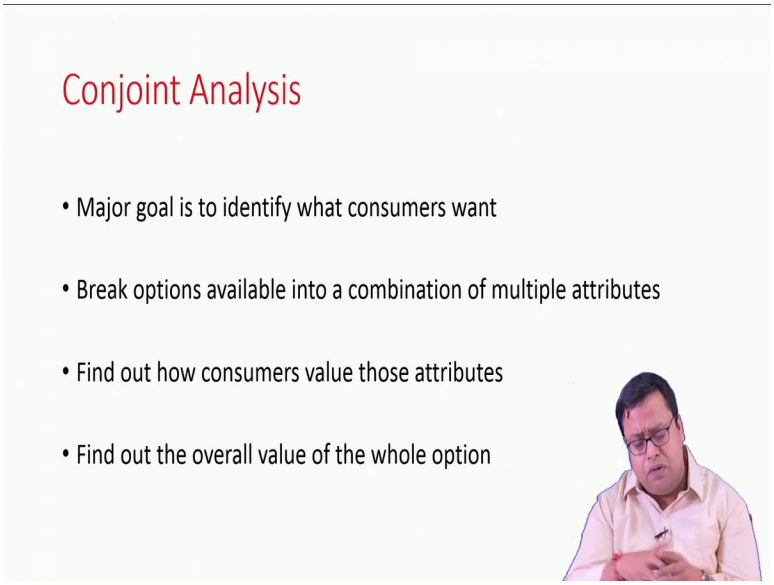


But there is another method, which you can also use, which is called conjoint analysis. The major goal is to identify what consumers want as usual? And we actually what we do is? We break options available into a combination of multiple attributes. So we make sure that it is a combination of multiple attributes and find out how customers value those attributes.

So, each of the offerings that we have, we break it down and then see that each particular part, how customers are valuing those attributes? And find out then a combination of those attributes and combination of the valuations of the consumers as well to create the overall solution. So, we will come to that this is all textual things, but we will come to that what exactly this means?

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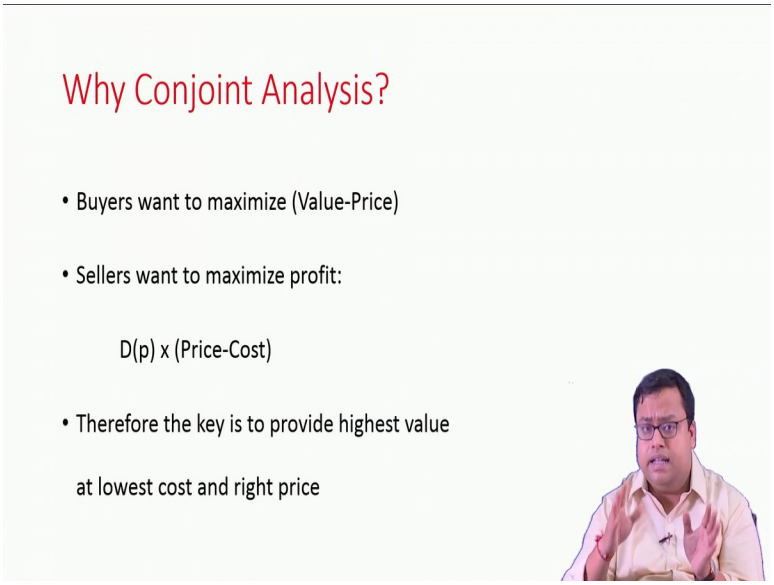


So, the very basic thing that a customer wants to do is to get the maximum consumer surplus. He wants to maximize his consumer surplus. So these are economics, microeconomics 101 where he gets certain utility or value from an offering when he purchased that and when he purchases that he also pays a price. So, utility in the monetary term minus price is something is probably the net consumer surplus that he is getting. So, value minus price. So, he wants to maximize that as simple as that.

Now, to create value for the customer, you have to increase your cost, the more value will create the more costs the company will incur. On the other hand, you cannot charge more price. So, if you want to make the customers happy, if you want that value minus price to be high, either you can increase value or you can decrease price. But the problem with decreasing price a lot is that price affects your profit function.

Your profit function is demand, which is a function of price into price minus cost. Now, if your price is very high, your demand will come down. So, you cannot keep the price very high. On the other hand, if you increase your value, your cost will go up. So, your price has to be higher than your cost. So, then there is a dilemma that we have as a customer. So, do I increase value, do I increase price?

What do I do? If I increase value, then cost will go up, if I increase cost, the price will go up, if I increase price the demand will come down. And I do not know whether the profit maximizes or not. So, I have to find out the best solution which will give customers the highest value at my lowest cost, and I can sell it at the right price, not the highest price, not the lowest price, but the right price.

So, this is something, all these combinations of information become difficult to find, to be able to find out in other options, ordinary techniques available. So, what are the techniques available we will discuss that first. So, what are the various ways in which I find out what customer values, so that value minus price that value is a function of what?

And then based on that, I can also find out what is the willingness to pay. How much is the right price? When I say that right price, what is that right price? And I can also find out whether I can give that particular product at that particular price or not. So, whether the cost is reasonable or not something like that.

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So, the demand side of the story that means to find out that value as a function of what comes from market research? So, we market research is something where we actually go to the customers and ask various questions. And there are various ways of asking those questions. You can ask in a qualitative way, you can do a focused group discussion, and people can discuss about what they want, what they do not want, what they like what they dislike.

You can capture their talking and then you can do text analytics or content analysis on whatever they are saying. Probably a little bit of emotional analysis, tone analysis also to find out whether there is something kind of emotions that are coming out of their verbal communication that is one way. There can be other ways you can go to the review website and find out the texts and etcetera, but these are all qualitative techniques.

Now, in a quantitative technique, you can do certain kinds of regression that we discuss in the last class. But still, there can be options as I told, there can be options, which is not even there in the market, customers have not experienced them. So, customers have not reviewed them, and you do not have information about them. So, what to do at those kind of cases?

So, classical market research will also have its own, I would say limitation in finding out that demand side story that means value is a function of what that kind of the story. So then, in whatever way you have to find out the combination of what is needed, what combination of various attributes that are needed. And then the next question is whether it can be delivered by you or not, that is the third question? So, the major problem comes in the first question itself that how to do the market research to find out value as a function of what.

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| Features | Levels |
|---|---|
| Brand | HP |
| Processor | 4Gz |
| RAM | 1 GB |
| Monitor | 21 inch |
| Price | $899 |

Now, if I try to break a product, I told that we generally break a product or an offering into multiple attributes. And we see that the offering is a combination of multiple attributes available. So, just close your eyes, I have given an example of let us say a laptop. You close your eyes or probably you ask in people and say ask them, that what is something that they consider when they go and buy a laptop?

For example, the variables that you consider and might be depending on your physical structure. For example, I remember I had a friend, a very close friend but whose height was short and she was a woman. So, she did not like a product which was heavy, because something that is heavy will actually affect her back and there will be backache and etcetera.

So, her preference was something which is not heavy. So, the weight of the laptop becomes an important variable for certain kinds of people. Then for other people, some other variables are important and you have to find out from a qualitative study which of these variables is important. For example, here I have listed down that let us say brand, the processor, the RAM, the RAM size I would say, the monitor size again, the price.

For some people probably storage is also important. For some other people probably, let us say, the certain kind of graphics card is there is also important and etcetera. So, there can be

so many aspects. As I told the height is, the weight is also important for some people for a laptop. So all of these things are important. And these are certain levels of values, or I would say, the exact values of various features that have been listed.

So, I can think a laptop as a combination of something which does a little bit of processing where the processor is four gigahertz, the RAM is of one GB and then it has 21 inches of monitor and so monitor, if I am talking about monitor then it is a PC not a laptop, but you can have screens of 16 inches or something like that, 14 inches, etcetera, and the price is that and the brand name is that. All of this combines and creates a PC or a laptop. You can think about something else. For example, you let say are talking about a mobile phone, a smartphone. What are the various aspects that you think are important for a smartphone?

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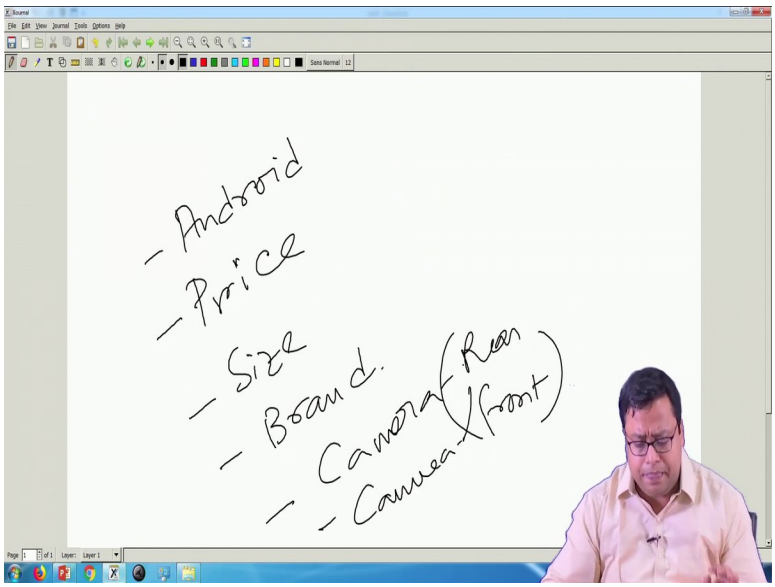


So, let us say if I just list it down for you, I am talking about me and you can check about others. So, for me if the first important thing that comes up is that let us say whether what kind of Android version it is or whether it is Android or not the first thing and whether and if it is Android, how, what is the Android version? And then probably the price is something that is very important for me.

And then the size, the screen size, if it is very big, then it will not fit in my pocket, if it is very small then I cannot write on it. So size matters, something like that. And then let say, the make that means the brand is something that is also important for me and then probably the very important factor is probably the camera, then also rear camera and front camera.

So, it can be two other, two different categories also, two different aspects. So, camera front and camera rear all of these things are important. So, there are six aspects. So, you can chalk it down, and you can chalk it down for other guys also and find out the five to six factors or features that are mostly told by most of the people. So, that is a qualitative part of the study

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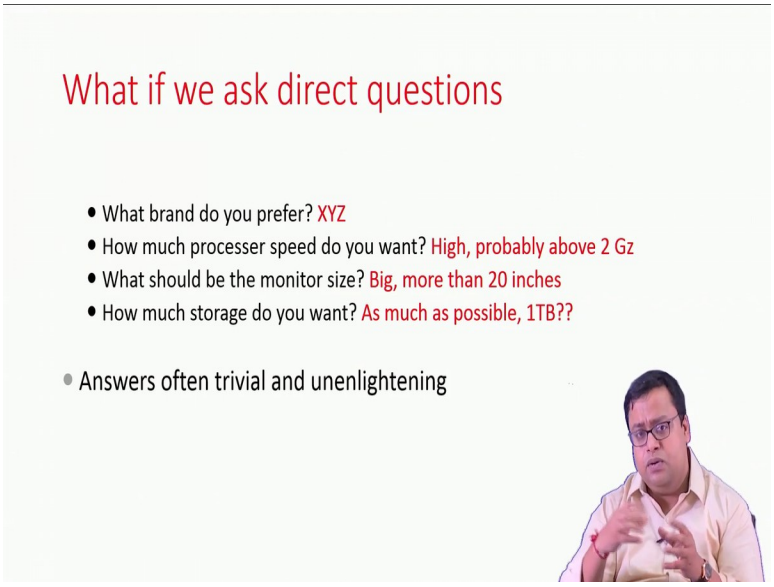


Then comes, so why can I not ask the direct questions? I can ask that, okay, so if you have told that brand is important or let us say you have told is processer speed is important or let say the size of the mobile phone is important, screen size. Why can't you just directly ask these questions that which one do you like? Okay, let us say Samsung and we how much is the process, how much screen size do like? Okay, up to four inches.

And let us say you asked me that which particular Android version you like? Okay, Lollipop or Kit Kat or something which is more latest I would say latest, that is all. And how much

storage capacity do you like? Okay, 64 GB as much as possible more than 64 GB at least. What is the RAM size? Okay more than 4 GB at least or something like that and then you ask me let us say what price? Less than 20,000 or 30,000 rupees.

So, when I say these things, these are all vague answers; this is not concrete answers. It does not say that, okay, if instead 40,000 if I give it in 20,000, how much is your willingness to buy it or exactly what percentage will it increase? Or if I say that, okay, if I give a combination of your non-preferred brand with your preferred RAM size, will you be more interested in buying that versus your preferred brand and non-preferred RAM size?

So, how those things actually interact with each other? I have no idea when I ask those things. So, often these answers are trivial and are not enlightening, you do not get any new information, any good information out of this method.

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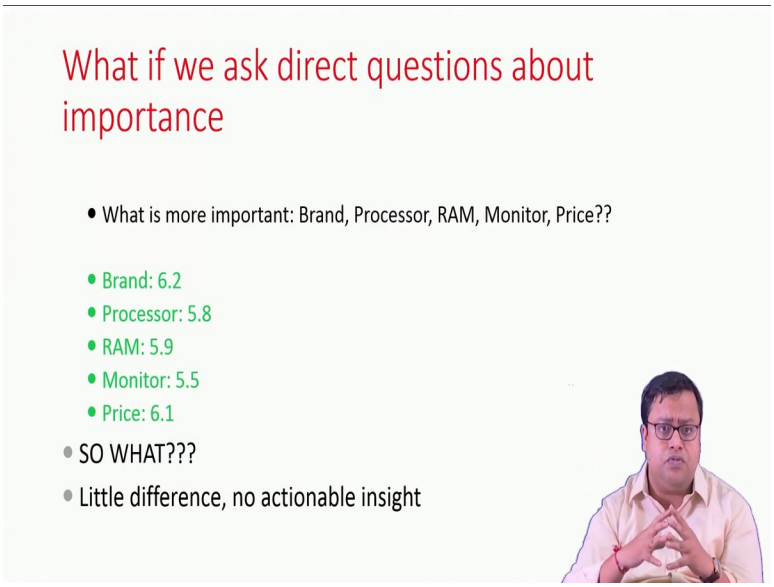


Another problem, so let us say, you want to know which of the features are important? Which features, not the feature level, but which feature is more important, whether brand is more important or processor is more important, Ram is more important? So you go and ask in most

of the cases when we go to the survey, we ask, in a one to seven point scale, one means least important seven means most important, you give them a rating or sometimes we ask them to rank.

I ask person A to rank, person B to rank, and we will find out the average of those ranks. The lower the average, the better or the higher the ranking, the better. Now, let us say you get a result like this, I have written it in text, you will get a bar chart. So, processor is 6.2; the brand is 6.2, processor in 5.8, RAM is 5.9 and so on. But the key question comes up is so what? So, what, then if I get this kind of a thing, what will I do after that?

There is no actionable, so if I know that RAM is more important than processor but the difference is point one, I know that, okay I will focus on RAM than processor. But how much we like make the RAM probably 32 GB or 64 GB or 128 GB or how much? How much is, how much importance I should focus on? I do not know. So, all of these things cannot be answered by the classical market research methods that we generally use.

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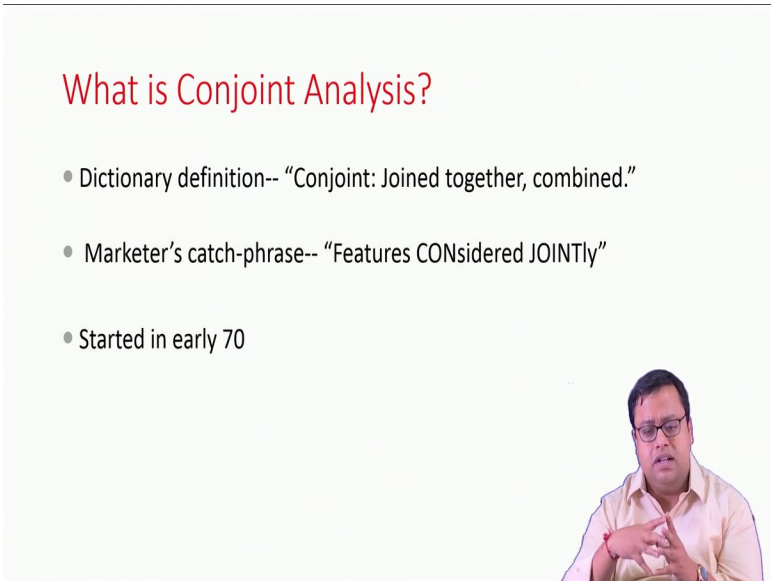


And that is where the Conjoint analysis comes up. Conjoint the dictionary term is joint together or combined and the marketer's catch phrase is "Features CONsidered JOINTly". So, this is something that is very important "Features CONsidered". So, "CONsidered comes from there 'Con' comes and JOINTly from there 'Joint' comes. It has started around early 1970's is why this Conjoint analysis earlier started.

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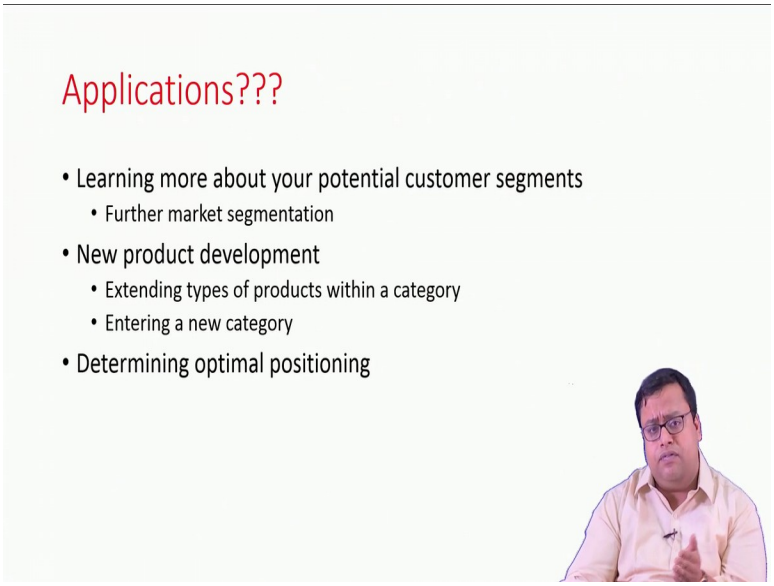

And what are the applications? The applications are learning more about your potential customer segments you want to know, you want to break the customers what they like, what they dislike something like that. It can be heavily used in new product development, it can be also used if you introduce a new product, what will be the market share? And you can also find out the optimal positioning of the products and I will actually show you in a case study what are the various things that you can do with Conjoint analysis.

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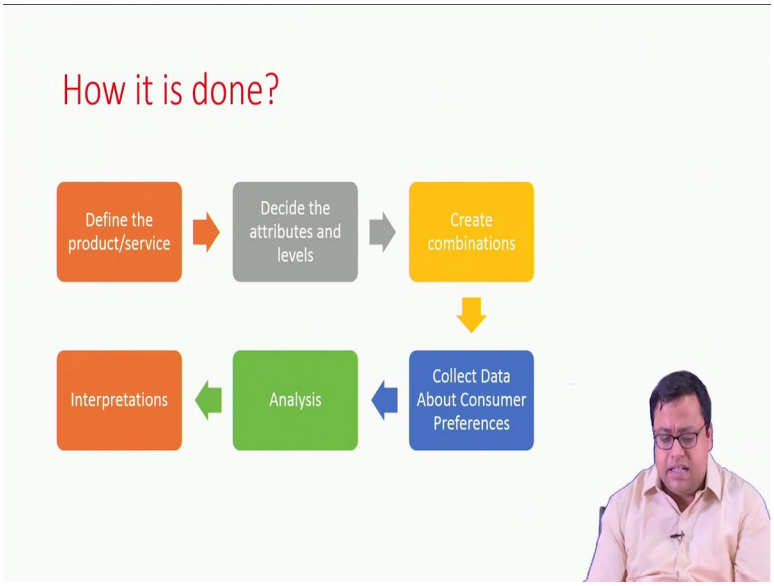


What are the steps? The first step is obvious, which product you want to do the Conjoint analysis on. Then once you know the product, you have to decide what the attributes are? What are the various features, and what are the levels of those features based on which you will create the combinations? So, you will create combinations in the third step and then show the combinations to the customers. Your sample is a market research method.

So there will be samples. So, you will go and ask them, and they will give either rating or ranking, some way of giving their preference to those combinations. Now, you collect those preference data, do your analysis. And then, from that analysis, you can create lots of

different kinds of interpretations, as I told the usage are at different places, so you can do lots of different kinds of interpretations, and we will talk about that one by one.

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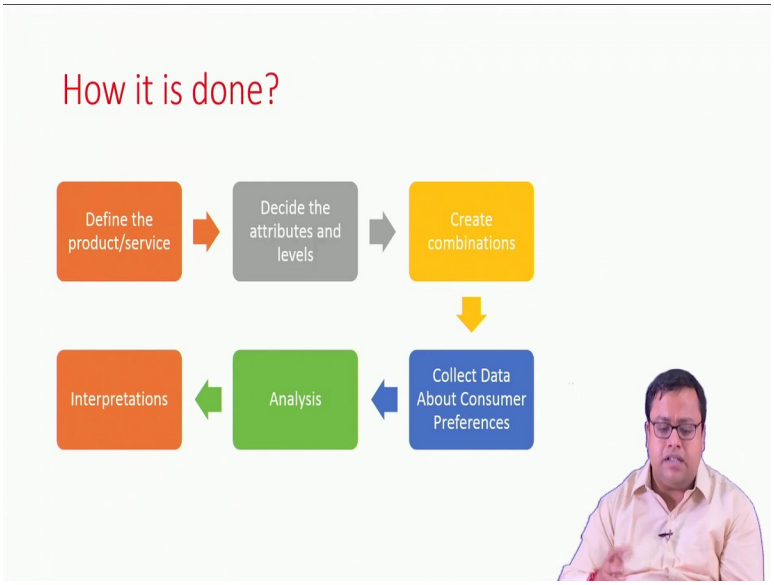


Now, the first step is, first you decide the product and service, in this case, probably let us say the product is laptop and when you are doing with laptop, you have to find out what are the attributes?

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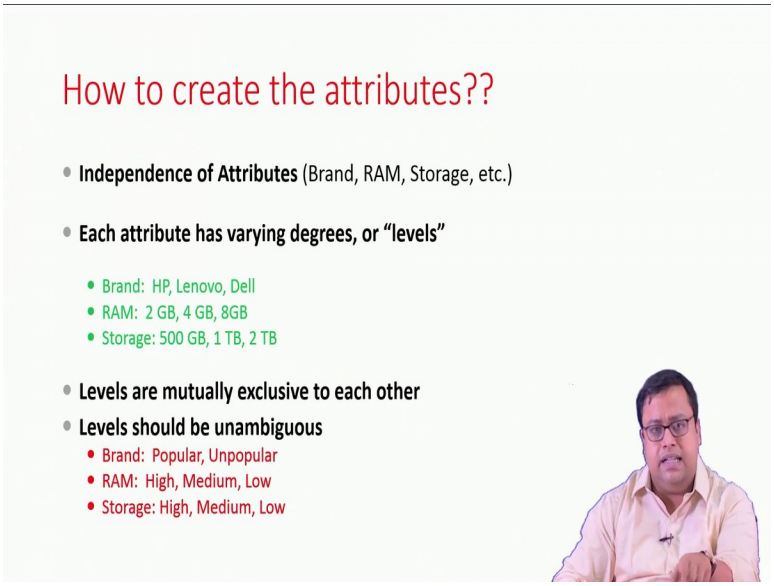


Now, choosing the attributes and choosing the levels of the attributes are also very important here, how? So, let us say I want to choose the attributes as the first thing. So, I have to choose

such attributes that are independent of each other; you cannot choose attributes that are dependent on each other.

For example, let us say the weight and the screen size and probably the size of that particular laptop is 21 inches or 40 inches are related. So, you cannot say that, 'Okay, I will give a 21 or let say 16 inches which is very least weight', that kind of combination might not have a meaning. So, you might either take the screen size or take the weight. If you are saying that, 'Okay the width, I would say the screen width and the weight are different, they are not related'.

You have to also talk about the thickness of that particular laptop. So, whether it is very thin or very thick or something like that, so then it is different. But for a general kind of laptop which is in a range of let us say around 30,000, up to 30,000 there might be very high correlation between the size and the weight. So, then if they are very highly correlated or if it is a categorical data you can use chi square test to check the relationships.

If they are not independent as simple as that, you cannot take that, so you should take those attributes which are independent to each other, that is number one. Number two is you have to choose those attributes which are varying level. So you choose an attribute which has no variety, let us say you are talking about smartphones and most of the smartphones let us say are Android and so let us say Android and then Mac.

Or app so if the processor, the OS, the OS system, operation, Operating System is not different, there are not multiple levels available. For example, if the brand name is Apple, you only have Mac you do not have windows. So, you cannot create a combination which is Apple and then, so in that case either you choose the brand name or you choose the operator, the OS name and because those kinds of combinations become difficult.

So, you have to make sure that varying levels are available and levels are unambiguous, and levels are mutually exclusive. What is mutually exclusive? That means that let us say 50 GB

and one TB, so if it is 50 GB then it is not one TB. If it is one TB it is not 50 GB, it cannot be something which is, which can be both actually, there cannot be an option, which can be both.

For example, let us say I cannot say that I have the three levels of color is let us say red, pink and red and pink both or red and middle of red and pink. Then, red and pink has to be a different from red and pink. So, it cannot be a combination of duo, both can't happen, this kind of things should not be there. So, all your levels should be mutually exclusive, either option A or Option B or often C.

Either of these three things should happen. And then comes the levels of the brand which has to be unambiguous. So, you cannot say popular and unpopular. What is popular for one guy might be unpopular for another sample. So, you have to give the name. You have to say HP, Lenovo or Dell; you cannot say popular unpopular, you cannot say high, medium, low because what is high for you what is high for me might be different. So, you have to give exact unambiguous concrete levels for each of the attributes.

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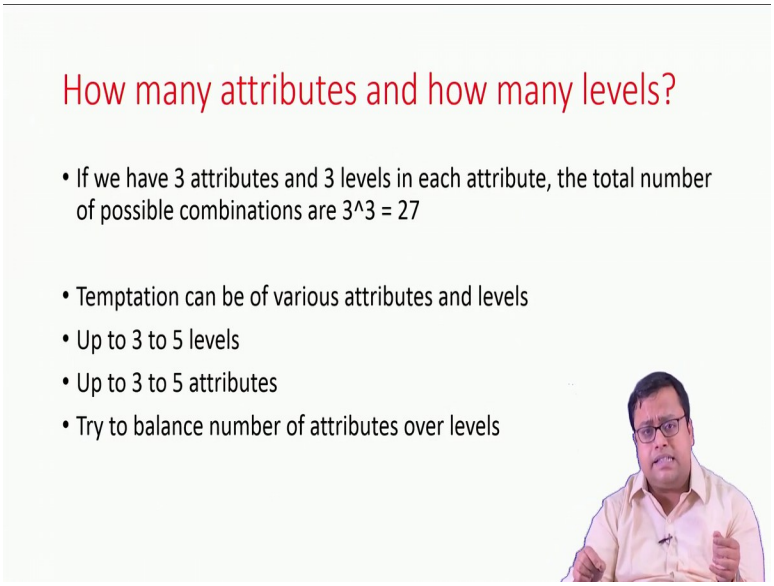

Once you do that, you create combinations. Now, it is very tempting for the people to create lots of use, lots of attributes, and lots of attribute levels. So, just see, if you use three attributes and each of the attributes has three levels like this, you will have 27 combinations three into three into three. So, the more activities you check and more attribute levels you take, the more number of combinations you get, it is good to have lots of combinations, but then analyzing them becomes very difficult.

You have to collect lots of data to analyze that. So, that is why we say that up to three to five levels, up to two three to five attributes not more than that. And make sure that the number of attribute levels is more or less balanced. So each attribute should have similar number of levels. Brand has six levels, and let us say RAM has two levels, that is not something that is good.

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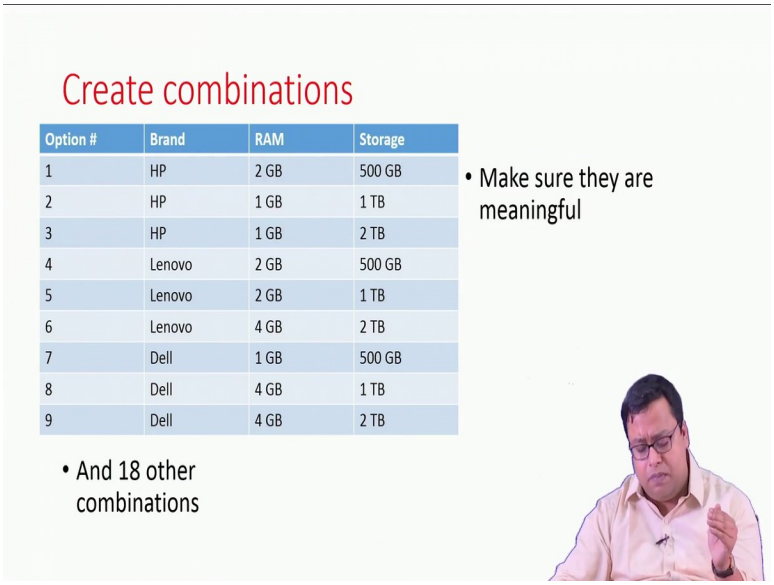


Now, I have just listed down nine of them, and there are 18 other combinations. So, you have to also see that the combinations are meaningful, as I told in the last discussion that Apple and Windows OS is not a meaningful combination that is not available, Apple brand and windows OS. So, you have to make sure that the combinations that you are creating out of those attributes and attribute levels are also meaningful. So, here and for space constraint, I could not list down all the 27 combinations, but there are a total of 27 combinations that get created.

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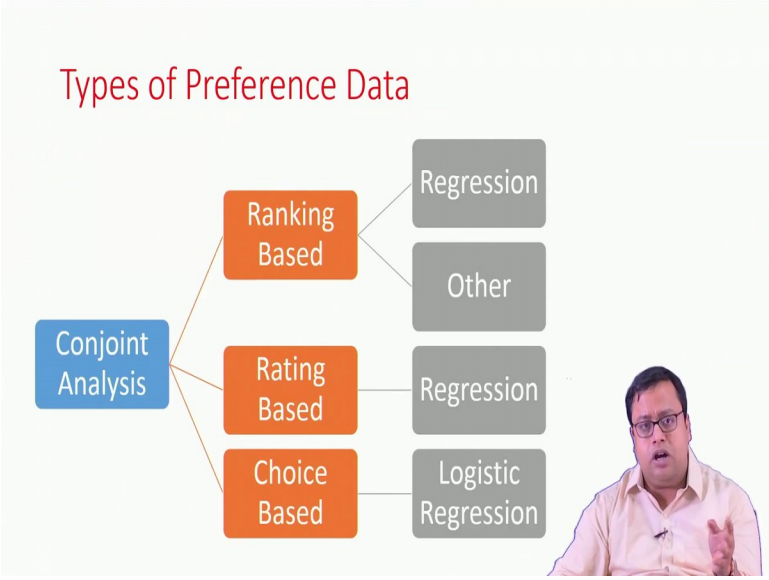


Now, the next job is to show them and collect data. There are three methods, one is ranking based, one is rating based, and another is choice based. And based on which method you are choosing, the analysis techniques are different. In the next video, we will talk about that, we will do a case study and we will see how this kind of methods and corresponding tools, statistical tools can be used to get what consumers want. So, we will stop here for this particular session and we will come back with a case study in the next video. Thank you.