INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NPTEL
NPTEL ONLINE CERTIFICATION COURSE

Marketing Research

Lec -04
Research Design: Conclusive

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Welcome friends we had just finished with the research approach and we had started into the research design and we also discussed about the first part of the research design exploratory research design where we talked about what is basically in exploratory research and how this it should be conducted right now today in this section we will be working on the non conclusive research right which is sorry conclusive research non- conclusive is exploratory. The conclusive research which consists of the, you knows two basic researchers one is the distributive research okay.

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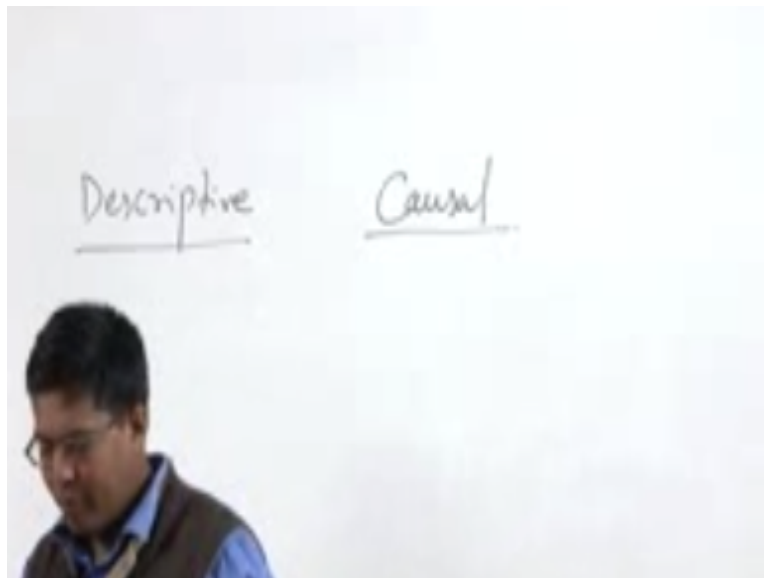
Distributive and the causal research okay so we will go in details let us see what basically is the, distributive and the casual to start with.

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So what is conclusive research it says it is a research design characterized by the measurement of clearly defined marketing phenomena this is clearly definition in exploratory you are little hazy you did not know because you are exploring in the conclusive research design as a name implies is applied to generate findings that are practically useful in reaching conclusions or decision making.

So as I said the descriptive was to able to defined something you are able to define understand something let us say in a particular market people are more let us say culturally or drive or more let us say traditionally derive you can say they are very traditional in nature, so a particular kind of goods let us say regions items and such products are being sold more let us say and in some other market for example let us say we field the people are more modern and they are less of tradition.

This is less of tradition so they would be an sale of different other kinds of products right so this is an hypothesis that we have because we been describing that this is something traditional verse let us say less traditional we can say but to test this hypothesis we have to build a hypothesis and test it right so as it says conclusions are design as then it is applied to generate findings that are particular used in is within the conclusion okay.

Now that is let us this is example in India at thus movement reliance industries which is one other largest col Metris right as started with a offer or a new subsidiary called the reliance Jio which is the into the telecom right so they are providing of mobile calls internet faculties and all this things right so once they have come in they have they started with lots and lots of offers right.

So with this offers and reliance being the large player with lots with a very deep pocket it has become a very difficult task competition for the others players in the market like for example Vodafone, airtel and all this telener and all right, so now would be the impact of reliance Jio in Indian telecom giants is a study so to study this we will not say it is an exploratory right because we have some knowledge okay what happens when it new player enters into the market we have some brave brief idea.

So understanding on point of that on taking that into context we will say we are trying to describe the market now in some form through some may be some develop some hypothesis and test it okay.

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	Exploratory	Conclusive
Objectives	To provide insights and understanding of the nature of marketing phenomena To understand	To test specific hypotheses and examine relationships To measure
Characteristics	Information needed may be loosely defined	Information needed is clearly defined
Findings/results	Can be used in their own right May feed into conclusive research	May feed into exploratory research May set a context to exploratory findings
Methods	Expert surveys Pilot surveys	Panels Structured observations Experiments

So exploratory verses conclusive it says it provides insights in understanding of the nature of market phenomena it helps in testing specific hypothesis and examining relationships okay information needed may be loosely defined because obviously it has to be information needed is clearly defined here right that means clearly in the sense you know what exactly you are talking about that is why you are describing.

Otherwise you would be exploring right so can we use in their own right may feed into so as I said exploratory helps in building up of hypothesis it helps in facilitating the developer of hypothesis right and this is used to again establish your finding and then to explore further something right.

The methods are expert surveys pilot surveys projective techniques focus group methods right is a structure observations and experiments okay.

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Classification of conclusive research design
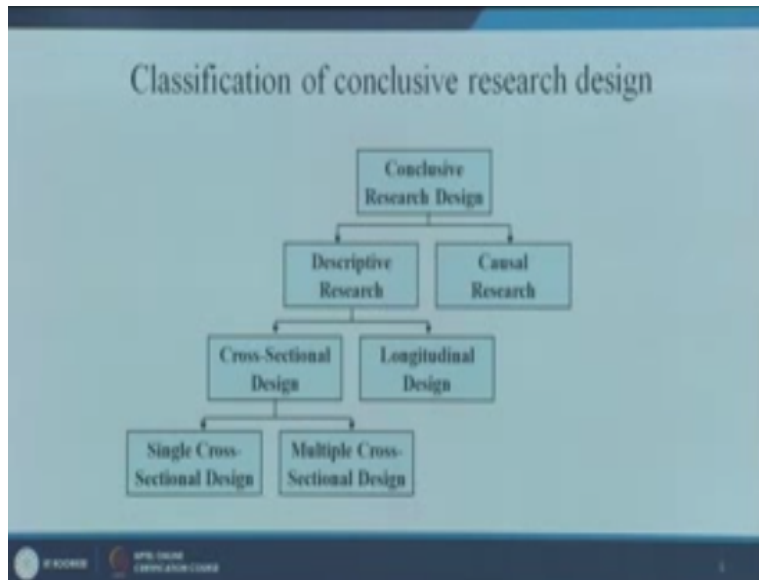
Now let us look at the classification of this right so conclusive research two types descriptive and casual, casual is basically the experiments so all the experiments will fall into causal efforts so in basically in basic engineering or let us say mostly all you see is causal research for example any scientific research any biological any physics area any research in physics chemistry all causal research right descriptive research on the other hand as been divided into parts the cross sectional design and the longitudinal design so if I remember I explained what is a cross sectional design so across sectional design is something like you know let us say collecting data.

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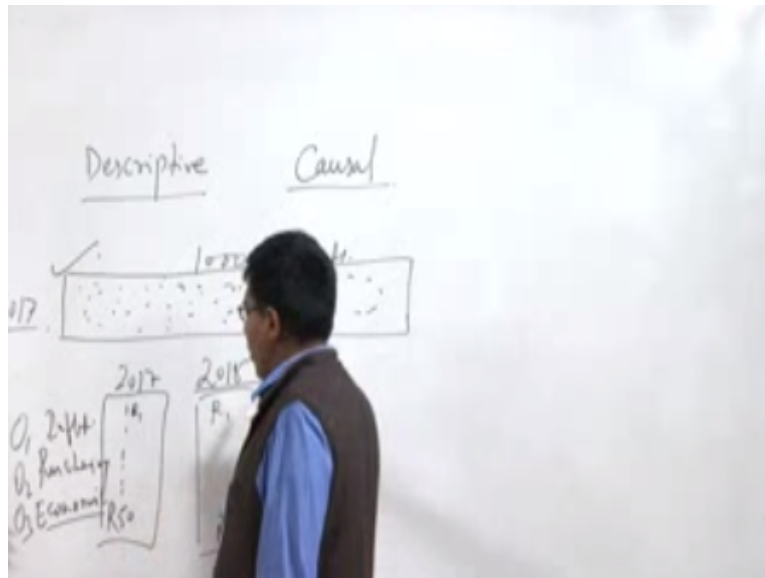
At one point of time let us say this is one point of time some several respondents let say several respondents in a particular time period , so let say this year 2017 let say and I have collected data from let say 1000 respondents okay, so now I would assume or any researcher would assume that all the you know other variables remains the state because the year is reaming the same so we are conducting the study in a particular year, so w would assume that others things will be same so they would have no influence on the respondents and that is why whatever data we collect at this movement.

They are more or less in a accurate because the respondents is giving a feedback to you on basis of the controlled manner because he knows the conditions are not different now they are the same conditions they are prevailing for all of them, so that is why we say this research is called a cross sectional research right, on the other hand if I take let say if I do something like this 2017 I have collected 15 respondents let say 1 to 50 respondent 1 and respondent 50 right this same this respond 1 respondent 50.

I would take it 2 and 2018 right and I would mark the changes in their behavior in their pattern or purchase let say similarly right so when I am doing this when I am doing this so I am basically trying to compare the same people on three times periods different time periods 2107 2018 and 2019 and then concluding that the reason change or there is no change in the points of you know in the in those areas which are of our research which are our objectives basically that means what I am trying to say here is.

That means here suppose we are trying to see key whether inflation has changes whether purchasing power has changed or people has their economic condition changes suppose these are our objectives let say these are the objectives 1 objective 2 objective 3 so if you are measuring this objectives then we can say okay well it is happening or it is not happening whether it is growing it is falling it is you know how what is the kind of relationship that is coming up that is what we are trying to find okay so a cross sectional design and longitudinal design they have.

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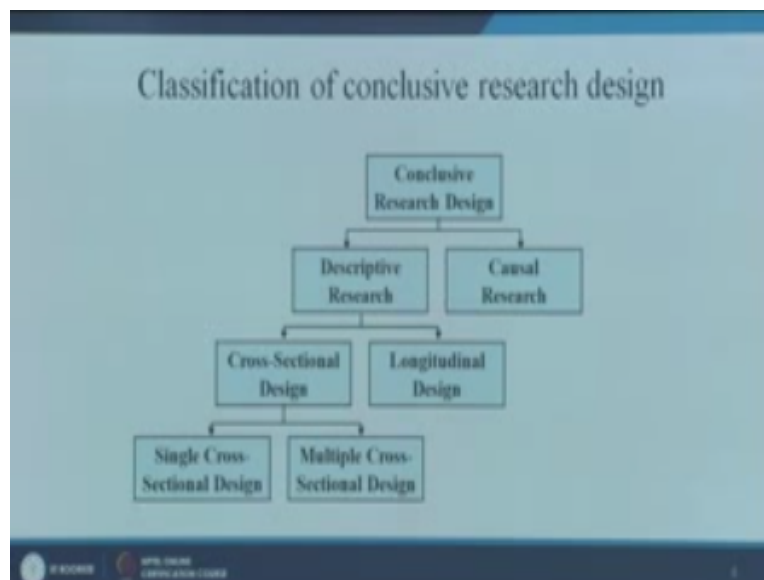
They have you know basically in all management research that you see leaving the economic apart mostly and in management financial research financial part will be do financial management research there longitudinal research is of is being used and basically but in economics yes completely mostly they are into longitudinal research, but in marketing basically in marketing the research that we see yeah in operations that we see or others thinks we are basically they are all into the cross sectional one.

Right because at one point of time we would be taking otherwise if we do not take at one point the data's behavior might change or similarly if you do not take a longitudinal data and if you take two many respondents or you would change the respondents even then what happens the behavior might now be able to we might not be able to actually base or the behavior okay, so that is why the respondent is also have to be same in the longitudinal design and across the time periods now coming to the third thing cross sectional design is again divided into two.

If you can see this single cross sectional design and multiple cross sectional design now very simple single cross sectional design says one group of respondent and once right to be taken the data has to be taken once from one group of respondents right in a multiple cross sectional design there might be more than one group of respondent right and the data might be collected from them, now let see this.
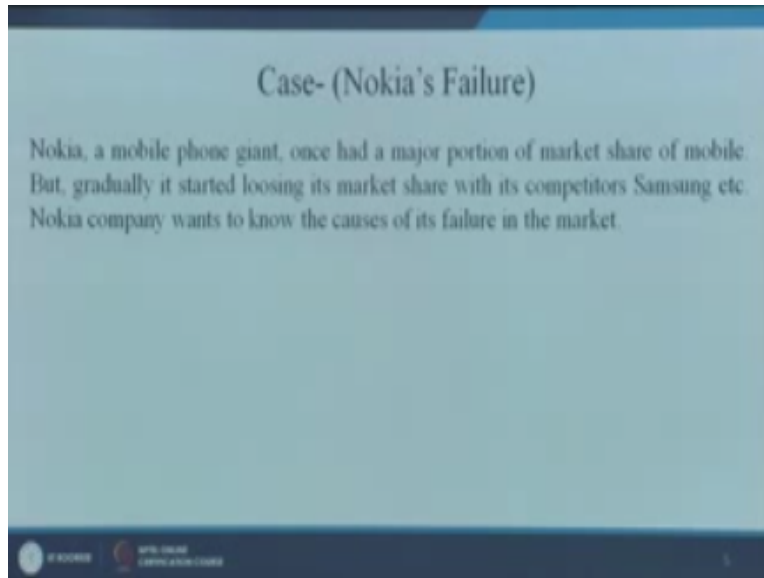
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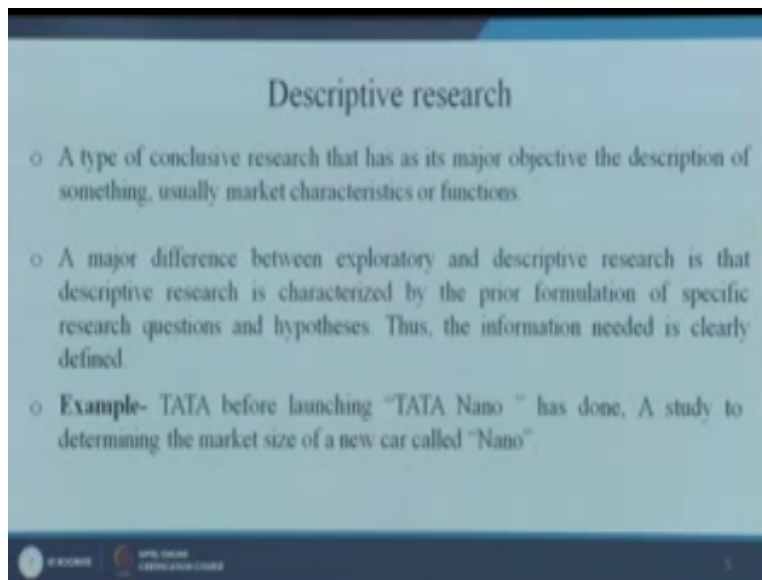
Okay we will go to that so I will go to that when I go in the latest I will explain you in it is there so let us go to the first the difference between the exploratory and descriptive as you can see here, prior formation which I have said so taken example here of the difference between the you know explaining the descriptive research when TATA launch TATA nano is study to determine the markets size of a new car was very important or very vital, so TATA when first start okay they need something car of which could be taking care of the families.

That was kind they started with the exploration okay, what could they provide to the market that can take tackle this problem but then the question was whether there is a market size enough or not to study that they had to go through a descriptive research okay.

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Case- (Nokia's Failure)

Nokia, a mobile phone giant, once had a major portion of market share of mobile. But, gradually it started loosing its market share with its competitors Samsung etc. Nokia company wants to know the causes of its failure in the market.

Now let us take another example of descriptive Nokia which is mobile phone giant had a major portion of market share of mobile. But gradually it started loosing we all know that because of the battery problems so many problems which happened with Nokia and with computer Samsung etc, Nokia Company wants to know the causes of its failure let us say, Nokia wants to know okay, what were the major reasons because of which they failed in the market.

So to do this they would have to go through a descriptive research what happen, why they are you know they failed down it is not key they are completely exploring something new they might be having some idea, they want to understand okay, how are these particular parameters is effecting their fall in sales okay. Now is the cat saying.

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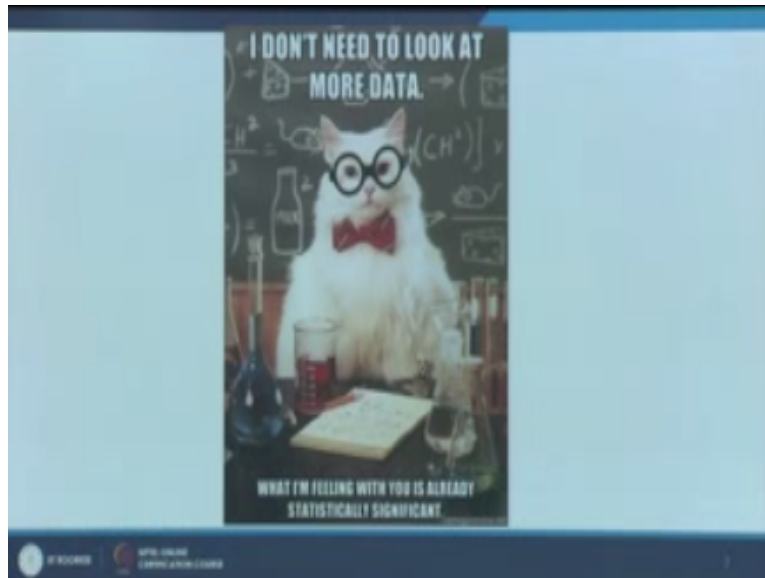
I do not need to look at more data, but I am feeling with you is already statistically significant, now this is to be underline this word when we come across to the core data analysis this word significant will have a big meaning into it, right. How what significant basically means and whether to expect a hypothesis or reject a hypothesis will depend up on your significance value, right at a particular significance level we say we accept the hypothesis or we reject the hypothesis, okay.

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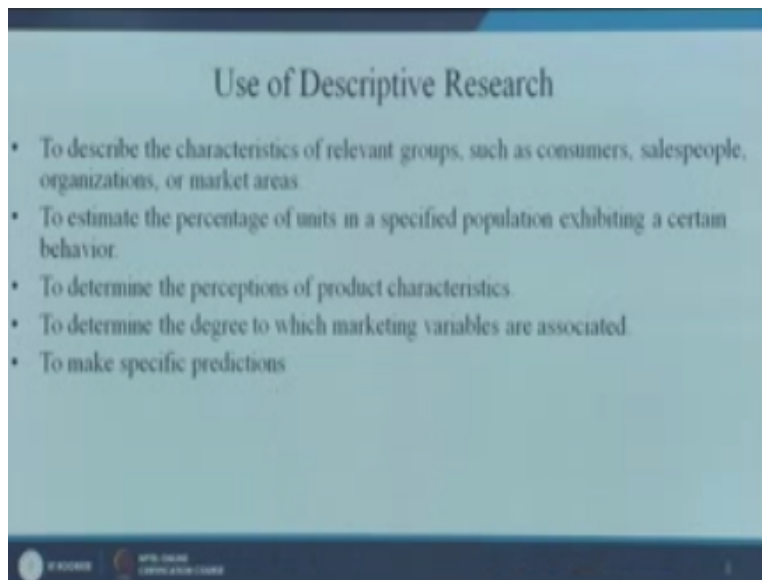
Now use of descriptive research it goes for relevant groups to understand the characteristics of relevant groups such as consumers, sales people organizations or market areas, right. To estimate the percentage of units in a specified population exhibiting a certain behavior. Now as I say, who are the buyers of Heid Iverson, who you know very interesting there was a study, there was a research once it so happened then when Kellogg's came to India they started launching their you know cereal right, into in the mainly market.

Now when they launch the cereal they though Kellogg's being a large international player sorry, there would be highly successful. But on the contemporary they found that people did not accept their product. So that was the phase where they have no clue so they have to explore the market right, okay why people are not buying their product and to then this may they found that in the west where people take conflex with a cold milk so the crispiness of the you know conflex remains in India people prefer warm milk.

So this is the habit in the culture of the people, you know the habit of people so in India we prefer a warm milk or hot milk so when you put in this conflex into that it losses it crispiness right, so that was where Kellogg's at to educate the people how to take the flex right. So it is used to understand a certain behavior of the people right, to determine the perception of product characteristics.
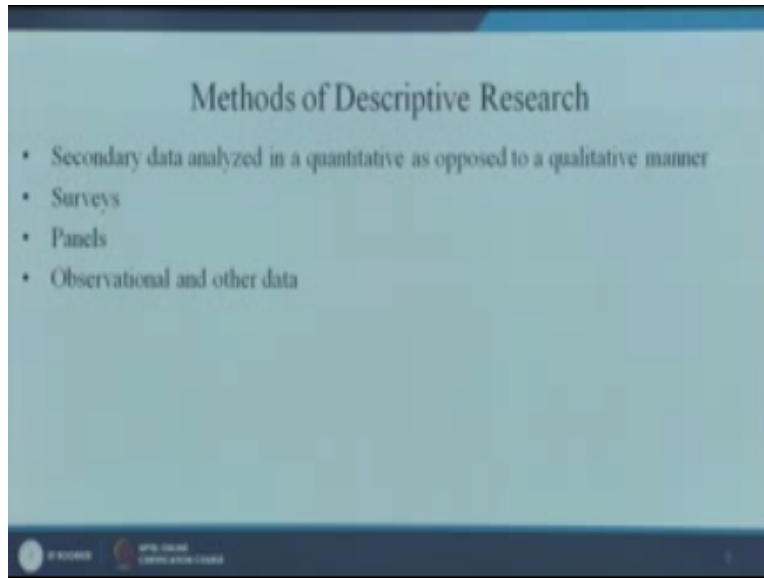
Now is a very interesting research goes on for example whether umbrella branding is good or bad, should a company go for individual brands or should it go for like Japanese companies gop

for an umbrella branding. For example, Wishuwichi, Macvita right they have one umbrella brand under which different product ranges are coming in.

But on the contrive some researchers early you that for example Crompton gambrel hindustan unilever they come with individual brands right, so that one brand if it does not do well also it does not get effected does not have on the other brands, okay. So to determine the perceptions of what people feel okay, to determine the degree to which the marketing variables are associated. Now the question is, is it like is packing does packing have am effect on the consumer behavior.

Thus, tells promotion have an effect is packing and sales promotion related is a celebrity endorsement important for a particular brand, does it really effect in the consumer products and not in the industrial products or it does effect in the industrial products even, so weave several questions in mind okay, to make specific predictions so out of which then be make the predictions, okay.

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Methods of Descriptive Research

- Secondary data analyzed in a quantitative as opposed to a qualitative manner
- Surveys
- Panels
- Observational and other data

Now are the methods so secondary data primary data both are utilized, so secondary data is analyzed in a quantitative manner, service which are primary basically right, panels which are like a focus group or something but panels are little true panels we say true panels are basically more like the same responded being repeated again and again right so panels one particular group of consumers are you know participants observational data and other right.

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Cross sectional design

Involve the collection of information from any given sample of population elements only once.

In **single cross-sectional designs**, there is only one sample of respondents and information is obtained from this sample only once.

In **multiple cross-sectional designs**, there are two or more samples of respondents, and information from each sample is obtained only once. Often, information from different samples is obtained at different times.

Cohort analysis consists of a series of surveys conducted at appropriate time intervals, where the cohort serves as the basic unit of analysis. A cohort is a group of respondents who experience the same event within the same time interval.

So as I said the true basic classifications single cross sectional designs which I was saying just I wanted to told you also there is one sample of respondents and information's is obtained once multiple cross sectional designs two or more samples are respondents and information free is obtain only once right.

So the difference lies in the two or more sample of respondents okay often information can from different sample is obtained at different times. Now this is something like you know multiple cross sectional design is just require to may be the validate the study to validate the study so you have one respondent like just like you know two different sample groups and you take the sample groups and collect the data and then take a make a inference and check whether there is different between the sample group or not okay.

There is one interesting which comes Interviewer: he cross sectional design is which is the kind of you can say closer to the multiple cross sectional design is a cohort analysis which is very important and what is the cohort? Basically if you see it is a group of respondents who experience the same event in the same time interval. Now let us assume all the youngsters who have gone through or I say in my terms the Harry potter time period you know generation the Harry Potter generation now these generation they went through similar events kind of similar events right and this people had one connection that they were all reader of Harry Potter.

Now they were all the consumers have Harry Potter books but now the point is after this what happen? They get disintegrated right so some no company or many a time the companies are not

able to identity next what to do with this consumers what to give this consumers right for example in India GSK comes with Horlicks for example you know for ladies Horlicks of children so different age groups.

Now that is the very interesting way of understanding how to retain the consumer all those at a different time periods okay. Now let us look at this.

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Consumption of Various Coca Cola by Various Age Cohorts

If you look at this table you will be seeing there are different age groups 8 to 19 20 to 29 30 to 39 40 to 49 and 50 right, so and across the years if you grow right now what is happening? If you look at it from a you know point of view if you look at the age and the years now one can come to the conclusion if you go vertically down let us say these are the age groups right 8 to 19 and all till 50 plus right and these are the time periods right.
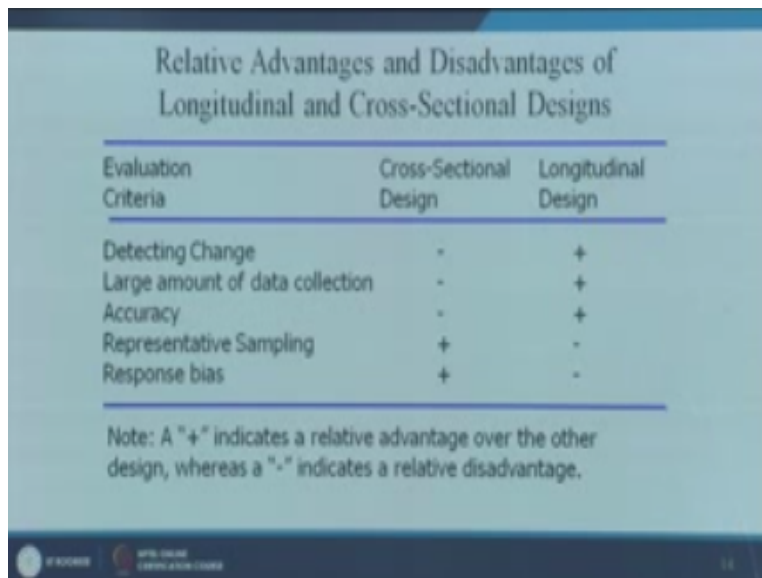
So if you look at the time periods you might feel one might feel make a wrong production or understanding that there is a fall in the percentage of people as they grow in the age the consumption is decreasing but if you look at the time period then it will may be clarify your thought that when this person 8 to 19 he was consuming for 52.9 person this group and when in the decade that means this people are the ones who have come to the age group of 20 to 29 so there is a fresh 8 to 19 group that is coming.

So this people are now consume in 16.7 and it has not 45.2 but it is 60.7 so that is there has been a increase rather instead of a decrease and then increase in the consumption of soft drinks and if

you see 67.7 then it comes to it goes on right, so we have to look at it so it is necessary to understand what is the cohort and how this cohorts influence the marketing characteristic or the sales of the company right of a product of a company okay.

Now you can see this from a first glance it to all looks like their decreasing trends but actually they are not decreasing trends they are in fact somewhere growing okay, now as I explain I have already explain longitudinal design so longitudinal design defrosts from a cross sectional design defrost from a cross sectional design in that the sample or samples remain same over time this is very important to understand right one in forget it okay.

So this is the some of the you know advantages and disadvantages of the cross sectional and the longitudinal design you can see it like for example in the cross sectional design changes might

not be visible but in a longitudinal design because the respondent remains the same over 2 to 3 periods of time, so it is you know it can be useful because you can deduct the change in a longitudinal design data collection obviously very large you can see here is a tool of data.

Because if you have a small data tool in descriptive research or in a you know cross sectional designs then might be that might be a problem of not getting proper results okay but in the case of longitudinal you do not need too many respondents but rather than be to repetitive right they have to be repeated accuracy is a question mark of they can be several factors that kind of influence cross sectional design so that is why so these are you can see the bias remains little or the bias term yes the bias is less here.

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But here because the respondents were less and you could have made a round selection process so the response bias can be high so similarly you have to understand right casual research on the other hand is to used to obtain cause and effects relationships right a type of conclusive research where the major objective is to obtain evidence basically to understand key suppose let us say what will happen when virtual reality would be really become we know pervasive in the market.

And everybody would be able to utilize virtual reality or the reality for that so as a result will the advertisement industry go through remarkable change will people who are not technologically survive in the phase out or something will happen close because many products have come into the market and because of the sophistication there new technology they have been able to completely delete or make the other older ones option it.

Some many cases right so that is why for you even if you see many companies today do not exist who were one time they were top companies in the world right so let us take this example reliance before introducing Jio did a research to see whether decrease in prices so that is very interesting call rates reliance Jio as I said they have deep packet they decrease the prices right.

It to phenemomeon you know rate very, very bigger rates they have drastically slashed down and now they want to see can it lead to an increasing sales as well as the increase in the market share many companies today play on the volume game now the volume game is nothing but to produce more so that and you know selected work price so that you can gain at all funds.

For example you can gave in the supply chain front you can gain from a large consumer base and thus you can mitigate or you can adjust with those losses on the price down from one unit but on the holistic term you might be gaining right so this is what to be seen and that is the casual research in social science.

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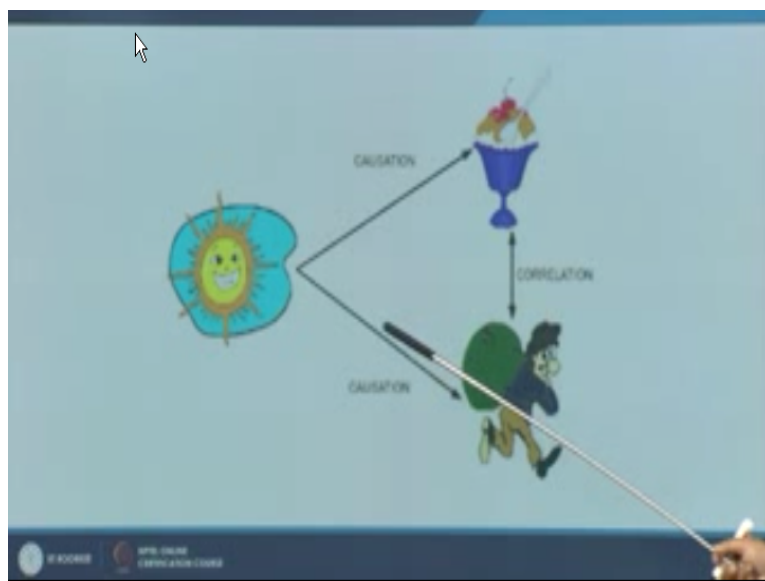
Now look at this now when there is sun is glaring is very hot there is requirement of ice cream right the person is getting tired so tired when he is getting tired and very thirsty right so automatically the demand for ice creams would go up so ice cream says of ice cream is dependent on the factor sun the temperature right.

Similarly tiredness or lack of depletion of energy is also connects the causes sun right sun is and so at B is to the core related one such when a research this is only very simple example but you can take look into your own research and understand what can be the cause and what can be your effects okay sometimes it is not visible.

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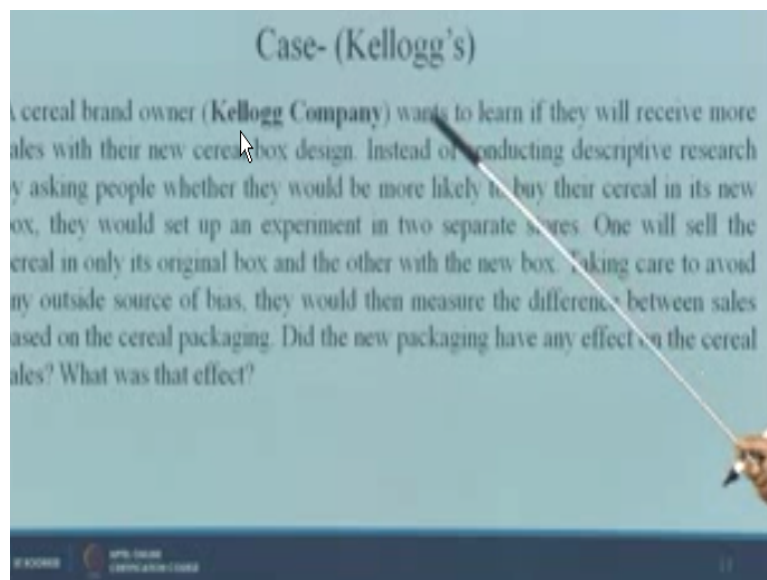
They are not visible to it you have to really look deep in to the subject this is the case of Kellogg's earlier I told the example of Kellogg's explorative part they want to learn if packaging, packaging can have a effort if packaging can have a effort on the sales for example right so they what they did was to learn this they made two designs of packages one which was the existing one.

And the other one was a new design right so they wanted to set up an experiment into two separate stores so one will sells the cereal in original box so for example they reflects a this is the original box

So for example the result say this is the original box right this is the original and then you have a sleek let's say new box which is I do not which it looks something like the new one and the same amount the other things remaining contest there was change in the amount of the product into the you know conflicts and so nothing would change only the packaging would change right taking care to avoid any outside source of bias they would then measure the difference between the sales based on the serial packaging.

Now one you must have heard of is very popular nowadays being used and many companies have taken advantage of it is called the decor effect now décor effect is one kind of effect décor effect where company is are utilizing it to the fullest benefit right now what will you do in décor effect basically you try to let's say give certain integration a particular prices let say 5 dollars let's say and then maybe you slightly you increase it and you make it 8 dollars right.

And may be third one you give let's say at little more right and I do it lets say 16 dollars when I do this when I make such kind of packaging companies do it you know retailers do it and all so people feel the you know 16th one is to big the number so it is very costly and 5 one and they start comparing the 5 and the 8 and they feel the 8 one gives almost the level that is not double in price so this is the kind of effect that takes place and most of the people started using the bargain product on this on that blood bases apple made a tremendous profit in the market by using this decay effect to their full extent people have used consumer physiological to a great benefit of the companies have use to the great benefit right, so did the new package have any effect of the cereal cells what was the effect we are saying so use of casual research.

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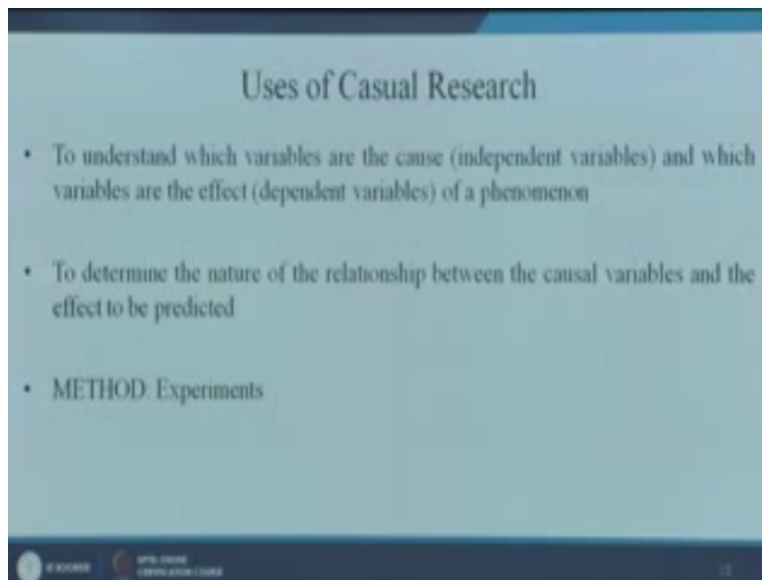
That basically as I said the causal research has a dependent variable and you have an you have one or more independent variables right could be 1 2 or IV_n okay so that will be 1 or more independent variables okay so how are this dependent variables okay so how are this dependent variable even it is not necessary that you have one dependent variable as they go on to data analysis I will explain you what how do you handle where multi dependent variables are there it is not necessary that you should have only one independent variable.

Sometimes the dependent variable also changes it is barrier the one time the independent variable may for the next time may become different variable which is use basically in structure in things like path analysis in structural equation modeling where I will explain that and also in a case for example where a multiple there is not one dependent variable that more than one dependent variable right, so in such conditions how what to be done right to determine the nature the relationship between the casual variables and the extract to be predicted so you have to predict so as you see there is something called you know there in error terms in engineering we say it is noise right or noise or the unexplained variance.

Basically the unexplained variables you could have explained through your independent variables let say 80% of the explanation and the rest 20% is the unexplained okay, so the method is experiments now this is a brief description of the differences.

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	Exploratory	Descriptive	Causal
Objective:	Discovery of ideas and insights	Describe market characteristics or functions	Determine cause and effect relationships
Characteristic:	Flexible, versatile	Marked by the prior formulation of specific hypotheses	Manipulation of one or more independent variables
Methods:	Expert surveys Pilot surveys	Panels Observation and other data	Experiments

Of the exploratory descriptive enclosure before we come to end to this class, so as I said objective discovery of ideas, describe market characteristics causal it to a determine the casual and effect this is more flexible and versatile right, this is marked by the proper prior formulation of hypothesis which is done from this stage exploratory helps here right, manipulation of one or more independent variables as I said this manipulation you would maybe bring in a new dependent variable and see the effect or you might decrease change the coefficient you can look at so and the methods are expert surveys which I have already explained observation and other data primary service and experiments, right.

So well let me wind up here the class so today what we have done in the session is we have understood what is the descriptive research and what is a causal research how they are different what is the coherent analysis what is the cross sectional design, what is the longitudinal design and what exactly is an causal research, where this is a cause and effect and there is a depended variable, there is a potential independent variables and some error terms which ever I explained which we would be describing or slowly getting into the subject as we move on and we will be doing later on, okay. Thank you so much guys, thank you very much.

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