Research for Marketing Decisions

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Exploratory and Descriptive Research Design: An Introduction

Okay, so next uses of exploratory research, we already know that where exploratory research is used, right? Can anybody answer where we use exploratory research? When do we use exploratory research? So, these were the methods of exploratory research that... that's what if you remember if you recall problem audit in the problem audit the researcher market researcher asked the manager about mcdonald's case if you recall that what are the you know when the situation was discussed that wendy's and other uh competitors they were introducing new

products, new burgers, sandwiches and they were doing aggressive promotions and at the same point of time McDonald's promotions were not doing that well. So the researcher asked how have you, if you have to take immediate action, what are the alternative courses of action with you? These are those alternative courses of action. I should ask you what is this? You should not ask me because I have already discussed this.

So methods of exploratory research, there are interviews, focus groups, observation, secondary data, all this is method of exploratory research. Descriptive users we know I already told you get in the descriptive research we describe the market characteristics in terms of the demographics, psychographics, what they think about their brands, how they feel about their brand and then we try to see the correlation or we do the statistical test to test the hypothesis. Sometime in the descriptive research you will confirm the problem and solve the problem at other times you might also do causal research and there will be times when you can straight away jump to causal research as I gave the example of price elasticity of demand. Methods of descriptive research mainly surveys in descriptive research mainly surveys the what is a survey? Questionnaire based form, right?

That is, we say survey. In descriptive research also, we can use secondary data. There is panels, there is observation. We will discuss this methods of descriptive research as we move on. Now descriptive research design is further broken down into single cross-sectional, multiple cross-sectional, cohort analysis, longitudinal design and this we will discuss right now so descriptive research design we know now what is descriptive research design right so now moving further in descriptive there is if we go to this particular slide the descriptive research design is further has

is broken down into cross-sectional design and longitudinal design. Cross-sectional is further broken down into single cross-sectional, multiple cross-sectional. Descriptive research most popular method of descriptive research is surveys survey method using the questionnaire but it is very difficult to make a good questionnaire and we will do that in the classes to come. Now cross-sectional design what is a cross-sectional design ? In descriptive research there is single cross-sectional, in cross-sectional there is single cross-sectional, multiple cross-sectional. Cross-sectional design single cross-sectional design is when we collect data from the sample only once. So as written in single cross-sectional designs, there is only one sample of respondents and information is obtained from the sample only once. So there is cross-sectional when we say it is assumed that we are talking about single cross-sectional. Single cross-sectional design is when we collect the data from the sample only once.

That is cross-sectional data. Multiple cross-sectional design is when we collect data in cross-sectional which is When we say cross sectional common understanding is single cross section we are talking about we collect the data from the sample only once. In multiple cross sectional design we also collect the data from the sample only once. But as written there are two or more samples at of respondents and information from each sample is obtained only once.

Which means in multiple cross sectional we are collecting we have the same survey but we are collecting data from two different samples at two different points of time. Which means for from each sample we are collecting data only once have you understood the difference between single cross-sectional, multiple cross-section. In single cross-section you are collecting data from the sample only once let's say I collect the data about I give a survey form collect the data about the feedback for this class today. After one year I again float the form for your juniors that is multiple cross-sectional design why the same questionnaire samples are given the questionnaire only once but the data is collected twice, data is collected multiple times from two different samples at two different points

of time that becomes multiple cross sectional design there are two or more samples of respondents and information from each sample is obtained only once that becomes multiple cross sectional designs why we do multiple cross section you are not collecting from different groups you are collecting from the from a different sample which is representative of the population that is multiple cross-sectional design. So single and multiple I hope the difference is clear right ? at the back we are in multiple we are using the same form but this sample changes

because I won't be able so you know I won't be able to catch you next year and your it will be very convenient for me to do that same survey with the next your junior batch because they'll be attending my class so I can give the form and get it now I can do that for with you right yes no yeah so so that is becomes a multiple cross section the same survey but with multiple different samples who are representative of the population. See when we say cross-sectional we say uh you say we i'm going to collect data in a week's time that is fine but the time this difference should not be so much that the some of the characteristic that you are measuring in that survey would change in that particular time frame so time frame you have to be a little Collect the data in a short period of time in which there would not be much changes in the characteristic that you are going to collect data on. Now, what is cohort analysis? This is a special type of multiple cross-sectional design.

Cohort is a multiple cross-sectional design, right? But this is a special type of multiple cross-sectional design. So cohort, what is this? The meaning of cohort is cohort represents a group of people who encounter the same event at the same time interval, who have undergone the same event during the same time interval. That becomes a cohort.

In this case, let us say, take an example. So there was a particular study done about the cola consumption in US and the first cohort, so in 1950, the study started where people from age group of 8 to 19, their cola consumption was noted down. It was 52.9 units, whatever units are there out of 100. So what is a cohort 8 to 19?

What is that event that they shared? What is the they encountered the same event during the same time interval? Why I say age cohort? Because they were born 8 to 19. They were born in that same 10 year interval.

They encountered the same event during the similar time interval. That is why age cohort 8 to 19. Their cola consumption in 1950 was 52.9. Then after 10 years, when they became 18 to 29, the cola consumption became 62.6.

But this is... This is showing the 1960s. After 10 years, So what is happening? Please listen in this example. In the US in 1950 from the age cohort 8 to 19 which means group of all the people who were 8 to 19 years of age in 1950 from that which the population of which is which was 5 lakh about 100 people were selected and their cola consumption data was taken which was 52.9.

After 10 years the same data, the same data is taken from a different sample because you cannot get the same hundred after 10 years you don't know many would have passed away, many would have flown to some other country, many would not remember you, many you would not remember so after 10 years that cohort all would be then 18 to 29 and the population of them was 5 lakh right ? After 10 years how difficult it is from that 5 lakh to get to the 100 same 100 people very difficult impossible. So after 10 years from the same age group cohort which were 8 to 19 in 1950 you collected you selected 100 people randomly and took their cola consumption data that becomes it is multiple cross section you collected the same survey same data of course answer to the same question with two different samples at two different points of time but it is a cohort analysis because you are collecting it from the same cohort the only difference is here it is cohort from you are selecting from two different samples but they belong to the same cohort and you are collecting it from at multiple points of time so If you look at this particular example, if you just look at the data for any particular year without looking at any other data point, which means just look at the data for one particular year, 1950, do not look at any other data point.

Here, if I hide the data for all other years, if I hide the data for all other years, just look at 1950 or 1960, if you are the brand manager. You have this data. Look at 1950. What will be your conclusion? As the age increases, cola consumption decreases.

So which means you will say, you will have, you will either keep your target as young people because their cola consumption is more. You want to sell them more. Unless the population of youngsters is becoming less day by day. So you would say that as age increases cola consumption decreases that will be your conclusion and your then brand strategy marketing strategy would be based upon that. Now look at look at the data from the same cohort I'm sorry this 50 this cohort this data it will become 20 to 29 so this age after 10 years. So if you look at the same cohort this cohort 52.9 units it was in 1950, after 10 years 60.7, after 10 years further 10 years 67.7, after further 10 years 67.8. if you look at any other cohort as well let's say 30 this let's say this one if we start from this cohort

after 10 years, they will be 20, they will be 20 to 29. This is their reading. Then this is their, this is their reading. This is their reading. Oh, sorry, not this one.

Because they are connected by this line only. Sorry. Yeah, these lines are connecting them. So if you look at after 10 years, if you look at trend for any particular year, any particular cohort, What is the answer that you are getting?

The consumption is increasing as the age increases. The result is completely different. That is the problem when you collect the single cross-sectional data. You can conclude wrong. If you would have collected only data in one particular year, the conclusion was as age increases, cola consumption decreases.

And so would have been your marketing strategy. But when you did the cohort analysis, you are getting to know that age is increasing, cola consumption is increasing, not decreasing. So which will lead to different sort of decisions. That is why the data of single cross-sectional design we should approach with caution. So we can at least conclude that at a given point of time, youngsters drink more than the adults.

Yes, that we can conclude. But the idea was here to see whether, see when you are doing cross-sectional design, you might face similar situations. So better is to use a cross-sectional or cohort analysis design, descriptive research design but cross-sectional uh cohort analysis uh multiple cross-sectional then single cross-section because the single cross-sectional data can be can lead to you to to the wrong conclusion. Now what is longitudinal design now ? Longitudinal designing when we collect data from the same sample at multiple points of time in the future from the same sample that becomes the longitudinal design. In the cross sectional we are collecting data from the sample only once.

The same sample is not repeated in cohort. If you look at cohort we had different people, part of the same cohort different people after certain points of time if you go back to the cola example example, but in longitudinal design we collect the data from the same set of people at multiple points of time the respondent will remain same over all the surveys in present and future that I will do that becomes the longitudinal design So there are some advantages and disadvantages of cross-sectional versus longitudinal design that you can read on your own. Now there is again one more example of why the longitudinal design are better form of design than the cross-sectional or even multiple cross-sectional.

Now, this is an example where a survey was conducted in a particular supermarket, a big supermarket, audit of brands in a particular product category audit or the survey was conducted for a particular product category. And there are three brands in a big supermarket brand ABC. So at time period 1, at time period 1, 1000 customers who were coming out of the supermarket and who bought that particular product category noted down which brand did they buy. In period 1, brand A was bought by 200 people, brand B was bought by 300, brand C was bought by 500

right ? Now the same same survey was done after three months after a quarter in the same supermarket, in the same supermarket same survey was done but we cannot say people who visited when three months before when you were there to collect data the same people will be shopping right ? There will be different people but data is the questionnaire is same. The supermarket is same. You are collecting data from a different sample. So thousand customers you again surveyed and found that brand A again 200 people are buying. Brand B is 300 people are buying.

Brand C 500 are buying. So what will be conclusion if you are a brand manager? Currently the proportion is unchanged. Currently the proportion is unchanged. Our market share position is not changed.

Brand A would say it did not decline. It did not increase. Likewise, brand B, brand C. So they would have some courses of action based upon this result, right? Now, suppose that this would have been a longitudinal design, which means these people who were surveyed at time period one after three months, after 3 months, the same people were surveyed.

Let us say, we have to make an assumption that after 3 months, they all were again buying from the same supermarket. Make that assumption or we can actually, this assumption we will have to make that if we surveyed the same people, let us say after a quarter, not for a single day let's say we surveyed them over two three days and it just happened that all thousand customer visited that supermarket so we had now data at time period one from that thousand respondents and data at time period two from the same what are the results ? The results are in time period one the total number of people who are buying brand A were how many? 200.

Sorry, 200. In time period 1, if you go back, the total number of people buying brand 1, the people who are buying brand 1 were 200 in time period 1. Out of those 200 who are buying brand a in period one 50 have gone to brand B and 50 have gone to brand C,

which means you are when you were surveying the same same sample after a quarter you found that from those 200 who bought brand a in time period one now only 100 are buying 50 have switched to brand B and other 50 has have switched to brand C. For brand B total was 300 and out of 300, only 100 are again buying brand B. From 300, 175 have switched to brand C. And rest 25 have gone to brand B. Likewise, you can see it for brand C. Out of 500 who bought in period 1, 275 out of total of 500 who brought brand C in time period 1 only 275 now are buying brand C, 150 have gone to brand B 1 and 75 have gone to brand A. So, if you calculate the switching how much switching has happened?

So now brand A, in time period 2, 100 are buying. Earlier, there were 200. Brand B, now 100 are buying. Earlier, there were 300. And brand C, now there are 275 are buying.

Earlier, there were 500. So you will get to know this brand switching behavior. This is 50%. This is how much? 33.3%.

And this is some 55, let's say. So which brand has the most problem? Brand B because only one third of the customers are repeat buyers. Everybody else have shifted to other brands. This kind of results you will get only with the longitudinal design.

Whereas if you would have done the multiple cross sectional, what results you were getting that? Our market share is same. There is no problem. We need not do anything. But now

When you survey the same sample at two different points of time, you found that people who are buying in time 1 How many are again buying the same brand in time too? Therefore, you will get the customer loyalty and customer loyalty and brand switching. The brands who are having facing more switching are in problem. They would initiate some different actions than what they would have initiated if they would have used multiple cross-sectional design.

But this longitudinal data also shows that the brands are not very differentiated in this case. So it just shows you the customer behavior. Why people are repeatedly by buying a particular brand ? The possible reason could be they they they like its effect its outcome of what they are using and for brand B the switching is very high which means many which means there is a possibility that its product use is not good.

That is why this. So next, this is a symptom. Then one could have a exploratory research problem and further market research but the idea is cross-sectional can get you to the

wrong conclusion. So cross-sectional results from cross-sectional studies, you have to approach with caution.

If possible, do the multiple cross-sectional or cohort or longitudinal. The big market research companies like Nielsen, they do longitudinal. The sample they recruit for doing longitudinal design, they are called panels. So they collect data over a period of time multiple times from them to see their change in buying behavior for various FMCG products and then sometime they also you know reinforce that data with some other data let's say TV watching data or or maybe web watching data and they superimpose and see what different type of

correlations between what let's say the ads are being shown at particular point of time, the ad tracking behavior and the consumption and so on many things are possible.... so error we will not read as of now. So I hope the little you got you got little idea about the research design what is a research design different types and what happens in exploratory, what happens in conclusive, inconclusive, what happens in descriptive, what happens in causal, in descriptive, cross-sectional, single, multiple, cohort and longitudinal. See next class we will be doing one hands-on method on secondary data analysis. We will be doing some sort of thematic analysis. We will be also looking at focus groups

in-depth interviews and projective techniques so do not miss the next class