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Appropriate Data Analysis And Interpretation

By

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APPROPRIATE DATA ANALYSIS AND INTERPRETATION

By Dr. Benjamin Lozare*
Dr. Seree Wongmonta**

Dr. Seree : The analysis and interpretation of a research should begin with making up an entry table in order to see the relationship between the variables so that we can know which should be crossed with which. Therefore I would say we should use an entry table as a preparation of data analysis. After that we will look at the quality of the questionnaire data collected. For the open ended answers we can use the categorization method. In doing an analysis, one should first make a frequency table for each variable with heading on the top along with percentages. There is no need to include the figure since the N is generally understood. Nor is there a need to put in the raw figure; just the percentage and the N figure.

When entering data into table we need some kind of order, either by using figure or by alphabet.

A simple method for open-ended answers is that as long as we include and others in a higher percentage than 10% it means there are other categories (such as 17%, 18%, 12%, 16% and others 23%). This means that our categories are not selected properly because the "others" category less than 10% (at maximum) instead of having other possible categories to be made up.

We do not need sophisticated statistical techniques for doing all researches. We need only the frequency reading type to enable the readers to get the picture of the situation. If the

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frequency offers understandable picture of the universe or of the population, it is sufficient and meet the goal.

A Social science research involves all kinds of human variables : attitudes, beliefs, cognitive structure, prejudices, biases, learning, perception etc. So we will never reach an ultimate conclusion since there will always be thesis/anti thesis. If we want some fancy statistics we may design a cross tabulation to find Chi-square.

In the Chi-square table we usually put independent factors on the top and dependent factors at the bottom. Age can be at the top and at the bottom might be the time that teenagers spend with certain kinds of media such as TV, magazines, and radio, which are dependent factors, and the figure can be presented in percentage. The statistical values that should be included are Chi-square, degree of freedom and P value which is less than something to show whether the P value will be less than .05 or not if we set alpha level at .05. We will reject that null-hypothesis has relationship between 2 variables.

Dr. Lozare : How the data was gathered and how did we get the interpretation of the data?. In research, we have gigo which means garbage in, gargage out. It looks like a very priciple. But the problem is garbage looks like non-garbage. And, the computer gives you a very neat figure but actually you may be looking at garbage without realizing it. And, this may be a point.

I think it's quite important though; I have seen it many times. We have three villagers. In these villages we have 200 respondents each. The question may be asked : How many respondents do we have in all? A common response would be 600. But most sophisticated analysts would ask what type of variables are we working with. Baccuse the kind of variables that we're working on is weak. The sociological variables are hemogeneous. Then accessary N should be 3 not 300 : if village I produces rice, village II produces coconuts and village III produces tobacco.

M.L.Tooi Xoomsai* : An important part of a research after it is finished is its presentation. Dr.Seree talked about tabular presentation at the end of the research or in the research report. A research presentation of a more complicated statistical research is done for the statisticians to read. But if it is a research presentation for the people in mass media who want to present the data for the public to understand, the method of presentation should be altered so that it will be readable, understandable, useful, practical and ethical. So graphic presentation is a simplified form that people can understand. It will make people fascinated with statistical presentation which is attractive and can carry information. The person who looks at the presentation can understand it immediately. So after we finish the research why don't we also prepare a report for laymen in which only frequency distribution is shown. In this respect I agree with Dr.Seree. The second set of the report is made for the sponsors who have a little knowledge about statistics. Then the third one can be for statisticians. This way we can present our research to all levels of readers. Nowadays people are interested in figures, therefore, we should present them in an understandable form.

Dr.Seree : Our research is a reader-oriented research. That is we should be aware of who our reader is when we are doing the research presentation. We will discuss the graphic presentation mentioned by M.L.Tooi Xoomsai on the following day when we talk about report writing presentation. So thank you very much Professor M.L.Tooi Xoomsai for leading to the topic.

As for the question about whether it is necessary to do an equal numbers of sampling, I would say that it is up to us. For example, in doing researches about advertising, I would many times give the same amount of quota if I wanted to hear the

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opinions of all parties equally. An example is in the research to study the effects of an advertising for Pias soap of which 70% of the users were women and 30% were men. An unequal number. So the women's group was our focus. Therefore, we had to interview 70 women and 30 men. But if I want to know if the university public relations system appeals to the students, I can select the same numbers of male and female students in year 1, 2, 3 and 4 because I consider their opinions are at the same levels. As for sociology, I use it a lot when dealing with ages and income. I may select income from below 3,000-5,000. But when it reaches 5,100, I jump to 10,000. This is because the difference between 3,000-5,000 is only 2,000 but from 5,100-10,000 the gap is wide. So I consider that those whose income is 5,100 up have similar patterns of buying behavior and those who have less income than that will have different buying behavior. My research is more of conventional statistic I usually break the group data into unequal interval. So far that I have conducted advertising researche, my clients seem to be satisfied because they understand that I am talking about upper class, middle class or A group, B group and can see how the high income group, the moderate income group are doing. The figures have defined all of those points.

When teaching statistics, I focus on the research concept rather than on figures. If one is keen on concept, the figures will follow. The question is : How can we pick it up and use it in a fruitful way?.