Sampling

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## Main Post:

The shopping store has every single item for daily use which ranges from food to gardening items such as pots for plants, which are rarely bought. Working as the Store Manager in one of the franchises for one of the most popular stores in the U.S. has broadened my experience related to public dealing by looking after almost 300 customers on a daily basis. I was asked by the head of the franchise to gather data which tells us the customer's preference related to the most popular item of the store. With our store dealing with shopping items of every type whether it is food or other shopping items of daily use, it was difficult for us to conduct a survey which would allow us to get a single item from almost 5,000 items we sold. So, we decided to be generic and use simple random sampling, asking the customers as they were about to check out from the store about their favorite item from the store. And note the name of that item with their name so we could choose a sample without replacement. Sampling without replacement allows us to get more than one opinion about a particular subject (Bavarov & Belyaev, 1961). The sample set would be the first 500 customers checking out from the store, following the idea of systematic sampling. The question would be general, as to what is the best one item sold by the store according to them. The sample of the survey, though it would focus on teenagers and adults, would also consider the opinion of children traveling with adults. The view of the children, if any, would be other than the 500 adults and teenagers who were made part of the survey.

## Follow Up Post# 1:

The best way to take a survey would be to survey with sampling without replacement and choosing the cluster sample. With population comprising different age group visiting the store, what can be done is to manage the survey in such a way that we divide the community based on the age group, i.e., 1-12 years old as kids, 13-19 years old as teenagers and from 20 to onwards years old as adults. Then we number each age group and choose 500 adults and teenagers from these clusters who approach the counter for checking out first. Kids are an exception as they are not very common to be found at the store, but their opinion is also taken into consideration.

## Follow Up Post# 2:

Another way of surveying our case would be to take a stratified sample. This will be the worst form of the survey if all the products on the store are divided into different groups, i.e. carrot, tomatoes, potatoes, etc. are put in the category of vegetables while frozen fish, frozen French fries are placed in the category of frozen food items. This would make the survey very complicated as the users would have to choose from a long list of shopping items which would have to be brought to them in the form of a paper on which the list would be printed. This would make the survey distasteful for the customers by having to choose from a long list of items, which would take a lot of their time. The successful and effective polls tend to be short and concise, making a stratified sample in this scenario the worst form of a survey.

References

Bavarov, E. A., & Belyaev, P. F. (1961). On Testing the Randomness of Sampling without Replacement. *Theory of Probability and Its Applications; Philadelphia*, *6*(4), 4. http://dx.doi.org/10.1137/1106055