A Study on Sampling Technique to Analyze the Matrix Organization in ITO Industry

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Abstract

Matrix organization is a concept which can be used where the organization is large, project is large, project involves different technology, and human resources are form various part of global. Matrix organization system offers lot of benefits compare than the traditional management system. It is being used in different industries such as educational sector, aerospace, Library, NASA and also applied in IT outsourcing industry. Though there are some researches in IT industry with respect to matrix organization but the formal research through academic is very minimal. Due to the nature of the business, reporting system and various parameters ITO industry diverges from non-IT industry. It is essential to study through formal academic research.

In order to obtain an anticipated outcome from the research, we need to have critical consideration in terms of organizations, population, sampling and appropriate sampling techniques which are critical for data collection of the study. Sampling technique is an important component in research design that decides the quality of the research work. In general, sampling technique which comes under probability sampling technique are preferred for research study but however there are some specific researches which needs non-probability sampling technique due to the nature of the research and various factors associated with it. While choosing the non-probability sampling technique careful consideration is needed in order to justify the selection and it should serve the purpose. Purposive sampling, also known as judgmental sampling or selective sampling or subjective sampling, is a type of non-probability sampling technique. In this paper we discuss the reason for using purposive sampling technique to analyze the matrix organization in ITO and also try to gauge its effectiveness.Introduction

Introduction

Research outcome is based on the various process or steps such as defining the problem, research design (which includes the research approach, population, sample and sampling technique, tools and methods, time and data collection methods), data analysis, data interference and conclusion.

A quality of the research is based on the data we collect in order to analyze and conclude the research. A good sample is a representative sample chosen on behalf of the whole population. Selecting an appropriate sampling method plays a vital role in research, as it is the soul of the research. Population, sample and sampling are the important things that we need to understand in order to carry out the data collection. Sampling method is the process or the step of drawing a definite number of the individuals, cases or the observations from the total population for the research or study. Sampling technique is broadly classified as 1. Probability sampling 2.Non-probability sampling.

There are seven types of purposive sampling technique that we may use based on the need: Maximum variation sampling, homogenous sampling, typical case sampling, extreme case sampling, critical case sampling, total population sampling, expert sampling.

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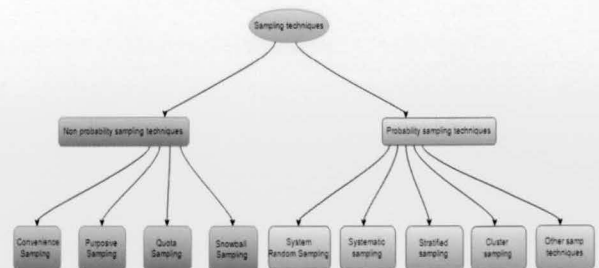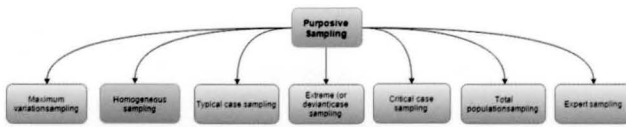**Doctoral Scholar, Faculty of Management, Jain University, India, kannamani23@gmail.com, Author to whom all correspondence should be addressed

Literature review

In 2009 Teddlie and Yu (7) indicated that the purposive sampling can be used to address specific purposes related to research questions and Focus on depth of information generated by the cases. In 2004, Kothari, C.R (3) discussed that the researcher uses his/her judgment to select population members who are good prospects for accurate information.

In 2014, Kumar (8) mentioned that the primary consideration is purposive sampling is your judgments as to who can provide best information to achieve the objectives of your study, this is sampling method is more common in qualitative research but when we use in quantitative research we need to select a predetermined people who in our judgment, are best positioned to provide the needed information for the study.

In 2014, Jain and Singh (9) suggested the research should be Unbiased and objective means that you have taken each step in an unbiased manner and drawn each conclusion to the best of your ability and without introducing your own vested interest.

Challenges in collecting data with respect to ITO sector:

Getting an ITO employee's list and position of them may not be possible due to information security and data security restrictions.

Separating ITES business from IT is not an easy task & Accessibility to the delivery locations is restricted.

Strict monitoring of outbound emails is enabled in most of the organizations so employees may not want to respond & Probability of getting response from employees is unknown.

Why we have not chosen other sampling techniques:

Sampling method	Justification
Simple random sampling	Total population is known but not possible to get the list of population and hence fishbowl, table generation, computer based random selection will not work out for this study.
Systematic sampling	In order to go with this method, we should know the complete details of the population for systematic sample selection and hence it is not feasible to go with this technique.
Stratified sampling	Without getting complete list and numbering can't be done and hence dividing members of the population into homogeneous (stratum) subgroups before sampling will not possible. So this method is not feasible for this research.
Cluster sampling	We could have grouped employees,managers,senior managers and project managers as groups for cluster sampling but without full list of population this is not possible and hence this method is not suitable for analyzing effectiveness of matrix organization in ITO.
Convenience sampling	Like all other sector, we may not be able to meet the respondents at mall, shopping complex, street and home due to the restrictions.so this method is not suitable for this research.
Quota sampling	If we need to use this technique, the assembled sample has the same proportions of individuals as the entire population with respect to known characteristics, traits or focused phenomenon. But in our case we know the population but we do not have the list of the population, so we will not be able to form the groups and hence this method is not suitable for analyzing the effectiveness of matrix organization in ITO.
Snowball sampling	This sampling technique works like chain referral. After observing the initial subject, the researcher asks for assistance from the subject to help identify people with a similar trait of interest. But in this case we know the people and no one is going to refer to someone for our data collection and hence this method is not suitable for this study.

Why we have chosen Non-probability purposive sampling for MOS in ITO

Though we know the tentative number of population and the number of organization that we are going to interview, but there is no opportunity to use any sampling technique which comes under probability sampling as there are so many challenges (as given in the above) due to the nature of business of IT outsourcing industry. We may try to use simple random sampling methods in order to drive a count of sampling from total population of 5 lakh but we are not very sure if we will be able to reach them or will they

respond as per the calculation. Hence we have decided to choose purposive sampling that comes under Non-probability sampling method, but however we will ensure all the precautionary measures (as given in the below paragraph) to ensure the sample is not biased because we have selected this method.

Are we meeting the criteria for purposive sampling?

Criteria for Purposive Sampling	Justification for our study
The primary consideration in purposive sampling is your judgment as to who can provide the best information to achieve the objectives of your study.	Employees only who works in ITO
You as a researcher only go to those people who in your opinion are likely to have the required information and are willing to share it with you.	Employees, manager, senior managers from various organizations belongs to various country
This type of sampling is extremely useful when you want to construct a historical reality, describe a phenomenon or develop something about which only a little is known.	Yes, MOS concepts are famous in all areas but the formal research outcome are less in ITO sector, so in order to understand the challenges it is important to study.
This sampling strategy is more common in qualitative research, but when you use it in quantitative research you select a predetermined number of people who, in your judgment, are best positioned to provide you the needed information for your study	300-400 people from at least 3 continents, 5-12 countries, different employee level, from at least 10 different organizations.

Chosen sampling method is unbiased, how?

We are trying to justify the purposive sampling method that we have chosen is unbiased, we have chosen two ways to prove. 1. Pretest and pilot test 2. By facts
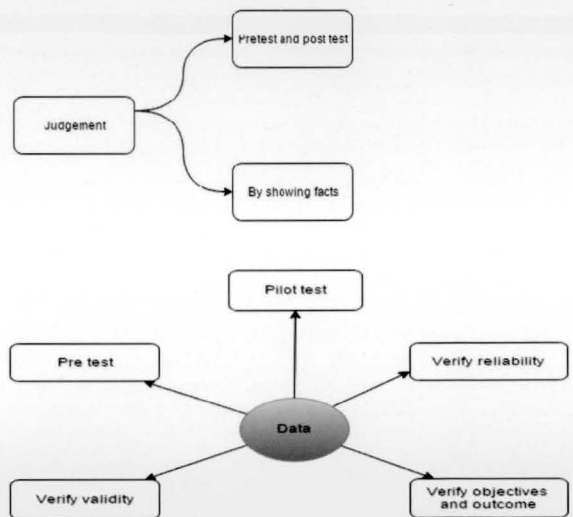
Pretest and Posttest

Before sending questionnaires for pilot phase, pretest will be conducted with experts and will get an opinion so that we can modify pilot phase questions based on the feedback.

Pilot study date from 20-30 people, will be analyzed and test the validity & reliability so that the final questionnaire can be finalized.
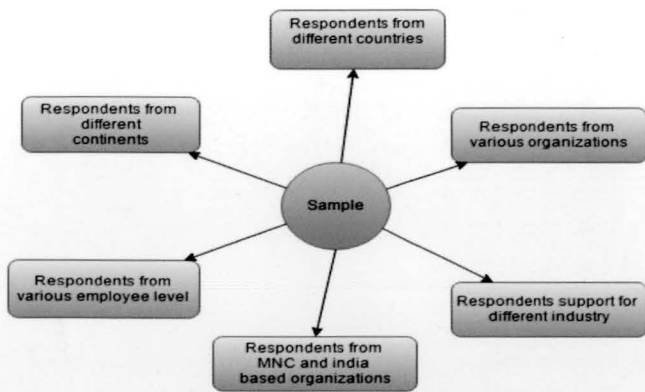
From the pilot study result we would be able to quantify the data, so that we can prove the data through purposive sampling can have validity and reliability. (There is a belief that purposive sampling used for qualitative research).

Facts

- Respondents are from various parts of the globe such as Asia, America, and European continents.
- Respondents are from minimum 10 countries.
- Respondents are employees (Engineers), managers, senior management professional, and project manager community.
- Respondents are from at least 5-15 different organizations.
- Respondents are from MNCs and India based organizations.
- Sampling size will be at least 300-400 to have representative sampling.
- Approximate total population is around 5 lakh. (As per Dec2015, Wikipedia)
- Respondents are male, female and would also be 3rd gender.
- Respondents are from core ITO companies and ITO SBU from IT companies.

purposive sampling method it does not mean that the chosen method is giving imprecise data. It is absolutely depends on the careful considerations such as the situation, method of choosing the target population, etc.

Proposal for future study

The exhaustive study in this paper has paved way for the following areas of research.

1. The suggested method can be used for research in any other Non-IT area based on the suitability.

2. One can verify and disapprove if the suggested method is wrong and prove other suitable method for this specific research.

3. This technique can be used with other sampling techniques based on the need so that the researcher can obtain the expected outcome.

Conclusion

In general it is assumed the sampling methods that come under probability sampling gives an accurate data and it is unbiased. But there are some situations, we have to collect the data by using non-probability techniques but it is very important to justify why we are choosing it. Non-probability sampling techniques should be opted by choice but not by chance and also it is the duty of the researcher to ensure that we are not biased. Because we use

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