

# **Collection of Data**

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**Census and Sample Method**

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- **Universe/Population:** The word 'universe' as used in statistics denotes the aggregate from which a sample is to be taken.
- The scope of the universe depends upon the definition, object and available resources for the investigation.
- For example, if we want to study about the wages of the workers of a factory, all the workers taken together of that factory shall be called 'universe' and each worker, a unit or an element.

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- **Sample:** Sample is part of the universe/population, which is suppose to be representative of the population.
- Sample is expected to possess most of the characteristics of the population.

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## Methods of Collecting Data

- (i) **Census Method:** In this method information is gathered from each and every unit of the universe. As such this method is called as Census Investigation or complete enumeration method.
- (ii) **Sample Method:** In this method information is gathered from a part of the universe, called sample.

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## Why Sample:

If the population is the infinite, complete enumeration is not possible. For the purpose of determining population characteristics, instead of considering all population, the individuals in the sample only are observed. Then the sample characteristics are utilised to approximately estimate the characteristics of population.

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Three of the main reasons for conducting a sample survey instead of complete enumeration.

**1. Time Function:** To conduct survey in shorter time particularly when universe is very large.

**2. Cost Function:** To economise the cost of investigation.

**3. Impossibility of Conducting a Census:** Sometimes it is impossible to conduct a census. First, it may not be possible to identify and access each member of the population. For example, to estimate the mean life time of light bulbs would necessitate burning out all the bulbs included in the survey.

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## IMPORTANCE OF SAMPLING

The importance of sampling is that you can determine the adequate respondents from the total number of target population. Thus, it will be used in the research study which should be adequate to warrant generalization of the findings to the target population. And the sample size represents the characteristics of the whole population (representativeness of the sample). The advantages of sampling are: it is economical and practical; faster and cheaper; it can yield more comprehensive information; it is more accurate; and because of savings it permits in time and money, the sample survey makes possible the use of much larger and much more varied populations than would be possible for the same expenditure if one were making a complete enumeration.

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