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**Short Notes
Research Methods (STA 630)**

Lesson No.1

Introduction, Definition, & Value of Research

Q what is research and what's the value of research?

Solution

Research is something to do with the laboratory where scientists are apparently doing some experiments / the process of finding solutions to a problem after through studying and analyzing the situational factors. It is gathering information needed to answer a question, and thereby help in solving a problem.

Value of Research

The nature of research problems could vary. Problems may refer to some undesirable situation or these may refer to simply a snooping of the research that may be agitating his or her mind. For example, in a recent BA/BS examination of the Punjab University 67 percent of the students failed. That is a colossal wastage of the resources, hence an undesirable situation that needs research to find a solution. The researchers may come up with a variety of reasons that may relate with the students, the teachers, the curricula, the availability of books, the examination system, the family environment of the student, and many more. So a study may be carried out diagnose the situation, and the recommendations to be applied to overcome the undesirable situation of mass failure of students.

The value of research for policy makers, planners, business managers, and other stakeholders is that it reduces uncertainty by providing information that improves the decision making process. Decision making process associated with the development and implementation of a strategy involves four interrelated stages,

- Identifying problems or opportunities
- Diagnosing and accessing problems or opportunities
- Selecting and implementing a course of action
- Evaluating the course of action

Lesson No.2

Scientific Method of Research & Its Special Features

What is Scientific method and write down its features or characteristics?

Solution

Science is a way to produce knowledge, which is based on truth and attempts to be universal. Science is a method or procedure to produce knowledge, which could be used for the solution of problems as well as for the generation of universal theories, principles and laws through the process of observation and re observation. Observation here means that scientists use “sensory experiences” for the study of phenomenon. They not only do the observation of a phenomenon but also repeat the observation several time because they want to definite and positive about their findings, rather the results are organized, systematized, and made part of the existing body of knowledge, all this procedure for the creation of knowledge is called “scientific method”.

Important Features or Characteristics of Scientific Method

Empirical_ Scientific method is concerned with the realities that are observable through sensory experience and generates knowledge which verifiable by experience or observation. Some of the realities could be observed directly but some are not observed directly but researchers have designed ways to observe these indirectly.

Verifiable_ Knowledge observes through scientific method again verified by the same researcher or other using senses to confirm, and place more faith and confidence in those findings or conclusions, If similar findings emerge on the basis of data collected by other researchers using the same method. They will gain confidence in the scientific nature of our research.

Cumulative_ prior to the start of any study the researchers try to scan through literature and see that their study is not a repetition in ignorance. Instead of reinventing the wheel the researchers take stock of the existing body of knowledge and create a linkage between the present and previous body of knowledge has to be established and that is how the knowledge accumulates.

Deterministic_ Science is based on the assumption that all events have antecedent causes that are subject to identification and logical understanding. The scientific researchers try to explain the emerging phenomenon by identifying its reasons. The researcher tries to narrow down the large number of reasons which implies the explanation with the minimum number of variables that are responsible for an undesirable situation in such a way some action could taken.

Ethical and Ideological Objectivity_ The conclusions drawn though interpretation of the results of data analysis should be objective that is they should be based on the facts of the finding derived from actual data and not on our emotional values. Any interference of their personal likings and dis liking in their research can contaminate the purity of data, which ultimately can affect the predictions made by the researcher.

Statistical Generalization_ Generalizability refers to the scope of the research findings in one organization setting to other settings. For wider Generalizability, the researcher sampling design has to be logically developed and a number of other details in the data collection methods need to be carefully followed. Here the use of statistics becomes very helpful in making generalizations which is one of the goals of scientific method because it is a device for comparing what is observed and what is logically expected.

Explanation_ Science is fundamentally a explanation activity and scientific explanation must make sense.

Inductive Logic_ One starts from observed data and develops a generalization which explains the relationships between the objects observed.

Deductive Logic_ One starts from some general law and applies it to a particular instance. Important features of scientific method say that there are two **power bases of scientific knowledge** (i) Empiricism such as Sensory Experience or Observation and (ii) Rationalism such as the logic explanations for regularity and then consequence ional argumentation for making generalizations.

Experimental Design_ A study design in which the researcher might create An artificial setting, control some variables and manipulates the independent variable to establish cause-and-effect relationship is called Experimental Design.

Lesson No. 3

Classification of Research

What is exploratory research and write down goals of this research and also write about sources used by exploratory research for collection of information?

Solution

If the issue was new or the researcher has written little on it, you began at the beginning, this is called “exploratory research”.

Its may be the first stage in a sequence studies, and useful preliminary step for new researcher’s. Exploratory research rarely yields definitive answers. It addresses the “what” question i.e. what is this social activity really about, and difficult to conduct because there are few guidelines to follow.

Goals of Exploratory Research

- Develop well grounded picture of the situation.
- Determine the feasibility of conducting the study.
- Become more familiar with the facts, setting, and concerns.
- Formulate questions and refine issues for more systematic inquiry.
- Develop tentative theories, generate new ideas.

Exploratory Research used following sources / tools for collecting information.

- Experience Surveys. In experience survey the researcher tries to contact individuals who are knowledgeable about a particular research problem.
- Secondary Data Analysis. Another economical and quick source of background information is secondary data analysis. It is preliminary review of data collected for another purpose to clarify issues in the early stages of a research effort.
- Case Studies. The purpose of case study is to obtain information from one or a few situations that are similar to the researcher’s problem situation.
- Pilot Studies. A pilot study implies that some aspect of the research is done on a small scale.

What is Descriptive Research and write down its goals and also write its sources for collection of data.

Solution

A research that presents a picture of specific details of a situation, social setting, or relationship is called “descriptive research”.

The major purpose of descriptive research is to describe characteristics of a population or phenomenon, and seeks to determine the answers to who, what, when, where, and how question. For examples labor force surveys, population census, and educational census. It offers to the researcher a profile or description of relevant aspects of the phenomenon.

Goals of Descriptive Research

- Clarify sequence, set of stages.
- Present background information.
- Give a verbal or numerical picture of the situation.
- Create a set of categories or classify the information.
- Focus on who, what, when, where, and how, but not why?

Descriptive Research used following sources / tools for collecting information.

- Data Gathering Techniques like Surveys.
- Field Research
- Content Analysis.

What is explanatory research and write down its goals?

Solution.

When we encounter an issue that is already known and have a description of it, we might begin to wonder why things are the way they are. The desire to know “why” to explain is the purpose of explanatory. It builds on exploratory research and descriptive research and looks for causes and reasons. For example why parents abuses their children.

- Explain things not just reporting such as “Why”?
- Elaborate and enrich a theory’s explanation.
- Determine which of several explanations is best.
- Advance knowledge about underlying process.
- Build and elaborate or enrich a theory’s predictions or principle.

Types of Applied Research

Major types of applied research used by practitioners are

- **Action Research**_ The applied research that treats knowledge as a form of power and abolishes the line between research and social action is called “action research”. It incorporates ordinary or popular knowledge like it focuses on power with a goal of empowerment seeks to increase awareness and tied directly to political action. Action researchers assume that knowledge develops from experience, particularly the experience of social political action.
- **Impact Assessment Research**_ its purpose is to estimate the likely consequences / assessment of a planned change and making choices among alternative policies. Such as assessment of Basha dam on the environment.
- **Evaluation Research**_ it addresses the question “did it work”, the process of establishing value judgment based on evidence about the achievement of the goals of a program. It

measures the effectiveness of a program or policy and uses several research techniques like survey, field research. Two types of evaluation research are

- Formative Evaluation Research_ It is built in monitoring or continuous feedback on a program used for program management.
- Summative Evaluation Research_ Looks at final program outcomes

Compared Basic Research with Applied Research?

Solution

1. Basic Research_ The scientific community is the primary consumer of basic research.
Applied Research_ The consumers of applied research findings are practitioners such as teachers, counselors, and caseworkers etc.
2. Basic Research_ basic researchers emphasize high standards and try to conduct near perfect research.
Applied Research_ Applied researcher make more trade offs.
3. Basic Research_ High standards applied
Applied Research_ Quick and dirty may not meet high standards.
4. Basic Research_ Logic and rigorous research design
Applied Research_ Apply to areas of interest of sponsors
5. Basic Research_ Success results published impact on other scientists.
Applied Research_ Success results are used by sponsors.

Lesson No. 4

Theory and Research

➤ Role of Theory_



- **Theory as a Orientation_** theory plays as a role of orientation because a major function of a theoretical system is that it narrows the range of facts to be studied. Suppose any phenomenon or object may be studied in many different ways.
- **Each science and specialization within a broader field abstracts from reality and broad orientation of each field then focuses upon limited range of things while ignoring or making assumptions about others.**
- **Theory as a conceptualization and classification _** each science is organized by a structure of concepts, which refer to major processes and objects to be studied. As a consequence, a major task in any science is the development of classification, a structure of concepts, and an increasing precise set of definitions for these terms.
- **Theory as a summarizing role_** A further task which theory performs is to summarize concisely what is already known about the object of study. These summaries may be divided into two simple categories (i) Empirical Generalization and (ii) systems of relationships between propositions.

- **Theory as a predicts facts_** If the theory summarizes facts and states a general uniformity beyond the immediate observations, it also becomes a prediction of facts which have several component.
 - **Theory as a point's gaps in knowledge_** Since theory summarizes the known and predicts facts which have not been observed, it must also point to areas which have not yet been explored. Theory also points to gaps of a more basic kind, while these gaps are being filled, and changes in the conceptual scheme usually occur.
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- **Propositions_** proposition are statements concerned with the logical relationships among concepts. A proposition explains the logical linkage among certain concepts by asserting a universal connection between concepts.
 - **Theory Development_** is essentially a process of describing phenomena at increasingly higher levels of abstraction. Theorist translates their conceptualization of reality into abstract ideas. Thus theory deals with obstruction.
 - **What is expansion_** the expansion is the whole process through which the phenomenon emerges, and we would like to understand the process to reach prediction.
 - **Theory_** Theory is a coherent set of general propositions, used as principles of explanations of the apparent relationship of certain observed phenomena

Lesson No. 5

Concepts

Concept

A concept is a generalized idea about a class of objects, attributes, occurrences, or processes that has been given a name. In other words a concept is an idea expressed as a symbol or in words.

Degree of Abstraction

“The organization of concepts in sequence from the most concrete and individual to the most general indicates the degree of abstraction”. Moving up the ladder of abstraction, the basic concept becomes more abstract, wider in scope, and less amenable to measurement. The scientific researcher operates at two levels of concepts and on the empirical level of variables. At the empirical level we experience reality and this is we observe objects or events.

Importance of concepts

Social sciences concepts form a specialized language, or jargon. Specialists use jargon as a short hand way to communicate with one another. Most fields have their own jargon like Physicians, Lawyers, Engineers, and Mechanics etc. all have specialized language and use their jargon to refer to the ideas and objects with which they work. Special

problems grow out of the need for concept precision and inventiveness and vague meanings attached to a concept create problems of measurement. Therefore, not only the construction of concepts is necessary but also these should be precise and the researchers should have some agreement to its meaning.

Identification of concepts is necessary because we use concepts in hypothesis formulation and one of the characteristics of a good hypothesis that it should be conceptually clear.

Dictionary Definition

Conceptual Definition

Conceptual definitions are a definition in abstract, theoretical terms. It refers to other ideas or constructs. It involves thinking carefully, observing directly, consulting with others, and trying possible definitions. Conceptual definitions are linked to theoretical frameworks and to value positions. Some constructs are highly abstract and complex and contain lower level concepts within them, and which can be made even more specific. Other concepts are concrete and simple. For example construct such as age is easier to define than is a complex abstract concept such as morale.

Operational Definition

In research we must measure concepts which require a rigorous definition and construct a concept must be made operational in order to be measured. An operational definition gives meaning to “a concept by specifying the activities or operations necessary to measure it and specifies what must be done to measure the concept under investigation”. Operation definition also called a working definition stated in terms of specific testing or measurement criteria. So, in operational definition we must specify concrete indicators that can be observed / measured.

Lesson No. 6

Variables and Types of Variables

What is variable?

Variable is central idea in research. Simply defined, variable is concept that varies. There are two types of concepts, (i) those that refer to a fixed phenomenon, and (ii) those that vary in quantity, intensity, or amount. The second type of concept and measures of the concept are variables. A variable is defined as anything that varies or changes in value. Variables take on two or more value. Because variable represents a quality that can exhibit differences in value, usually magnitude or strength, and also variable generally is anything that may assume different numerical or categories values.

Types of Variable

- **Continuous Variables**_ If the value of a variable can be divided into fractions then it is called “continuous Variable”. Such variable can take infinite numbers of values. Income, Temperature, Age, or a test score are the examples of continuous variable. These variables may take on values within a given range or in some cases an infinite set.

- **Discontinuous Variables**_ Any variables that has a limited number of distinct values and which cannot be divided into fractions is called “discontinuous variables”. It is also called categorical, classificatory, and discrete variable. Some variables have only two values, reflecting the presence or absence of a property, like employed or unemployed, male or female have only two values and it referred to as dichotomous.
- **Dependent Variable**_ The cause variable or the one that identifies forces or conditions that act on something else is called “Dependent Variable”. Dependent variables “depends on” the causes and also referred to as “Criterion Variable”. In statistical analysis dependent variable identified by the symbol (Y). The stock market price of the product is the example of dependent variable.
- **Independent Variables**_ The variable that is the effect or the result or outcome of another variable is called “independent variable”. It is also called outcome or effect variable. The independent variable is “independent of” prior causes that act on it. In statistical analysis independent variable identified by the symbol (X). The success of the new product is the example of independent variable.
- **Moderating Variables**_ A variable that has a strong contingent effect on the dependent and independent variables relationship is called “moderating variables”. That is, the presence of 3rd variable modifies original relationship between the dependent and independent variable. For example a strong relationship has been observed between the quality of a library facility (X) and performance of the student (Y).
- **Intervening Variables**
A basic casual relationship requires only independent and dependent variable. A third type of variable, “the intervening variable”, appears in more complex casual relationship. It comes between independent and dependent variables and shows the link or mechanism between them. In sense, the intervening variable acts as a dependent variable with respect to independent variable and acts as an independent variable toward the dependent variable.
- **Extraneous Variables**
An almost infinite number of extraneous variables exist that might conceivably affect a given relationship. Such variables have to be identified by the researcher. In order to indentify the true relationship between the independent and dependent variables, the effect of the extraneous variables may have to be controlled. Confounding factors is another name used for extraneous variable.

Lesson No. 7

Hypothesis Testing and Characteristics

Hypothesis

A hypothesis may be defined as “a logically speculation relationship between two or more variables, expressed in the form of a testable statement is called “Hypothesis”. Relationship is proposed by using a strong logical argumentation and may be part of theoretical framework of the study.

Types of Hypothesis

- **Descriptive Hypothesis**_ Descriptive hypothesis contains only one variable thereby it is called as univariate hypothesis. It is typically state the existence, size, form, or distribution of some variable. **For example** what is the level of job commitment of the officers in my organization?
- **Relational Hypothesis**_ these are the propositions that describe a relationship between two variables. The relationship could be directional or non directional, positive or negative, and causal or simply Correlational. **The directional hypothesis** is the one in which the direction of the relationship has been specified. **The non directional hypothesis** is the one in which the direction of the relationship has not been specified. **Correlational Hypothesis** simply state that the variables occur together in some specified manner without implying that one causes the other. **For example** level of commitment of the officers is positively associated with their level of efficiency. **Explanatory / Causes Hypothesis** implies the existence of or a change in one variable causes or leads to a change in the other variable. This brings in the notions of independent and the dependent variables. Cause means to “help make happen”. So, the independent variable may not be the sole reason for the existence of or change in the dependent variable, therefore researchers may have to identify other possible causes and control their effect in case the casual effect of independent variable has to be determined on the dependent variable and possible in an experimental design of research.
- **Null Hypothesis**_ It is used for testing the hypothesis formulated researcher. The null hypotheses simply states that there is no relationship between the variables or the relationship between the variables is “zero”. That is how symbolically null hypothesis is denoted as “H0”.
For example
H0 = there is no relationship between the level of job commitment and the level of efficiency. Or
Ho= the relationship between the level of job commitment and the level of efficiency is zero.
The two variables are independent of each other.
Experts recommended that we test out hypothesis indirectly by testing the null hypothesis. The rejection of the null hypothesis leads to the acceptance of the alternative hypothesis.
- **Alternative Hypothesis**_ The alternative hypothesis simply states that there is a relationship between the variables under study. Alternative hypothesis symbolically denoted as “H1”. **For example**
H1= there is a relationship between the level of job commitment of the officers and their level of efficiency.
- **Research Hypothesis**_ Research hypothesis is the actual hypothesis formulated by the researcher which may also suggest the nature of relationship.

Lesson No. 8

Review of Literature

➤ **Goals of a literature Review**

- **To demonstrate a familiarity with a body of knowledge and establish credibility_** A good review increases a reader's confidence in the researcher's professional competency, ability, and background, also tells that the researcher knows the research in an area and the major issues.
- **To know the path of prior research and how a current research project is linked to it_** A good review places a research project in a context and demonstrates its importance by making connections to a body of knowledge and also indicates the direction, ability, and background of research.
- **To integrate and summarize what is known in an area_** A good review points out areas where prior studies agree, where they disagree, where major questions remain and pulls together and produces different results, and also indicates the direction for future research. No wastage of effort.
- **To learn from others and stimulate new ideas_** A good review identifies blind alleys and suggest hypotheses for replication and tells procedures, techniques, and research design. Also tells what others have found so that a researcher can benefit from the others efforts.
- **Identification of Variables _** A good review identified different important variables that are likely to influence the problem situation are not left out of the study.
- **Helps in developing theoretical framework_** A good review may be provide a ready made theoretical model of research.

➤ **Types of Reviews**

- **Self Study Review_** It increases the reader's confidence and demonstrates familiarity with an area is rarely published but it often is part of an educational program. It giving to others confidence in a reviewers command of field, and is a side benefit that building the reviewers self confidence.
- **Context Review_** It places a specific project in the big picture and one of the goals of review is creating a link to a developing body of knowledge. This is a background or context review. It introduces the rest of a research and establishes the significance of a research question and also tells how a project fits into the big picture.
- **Historical Review_** It traces the development of an idea or shows how a particular issue or theory has evolved over time. Researchers conduct historical review only on the most important ideas in a filed.
- **Theoretical Review_** It presents different theories that assert to explain the same thing, then how well each accounts for findings. Researcher's also use it to integrate two theories. It sometimes forms a hybrid or the historical theoretical review.

- **Methodological Review**_ In it researcher's evaluates the methodological strength of past studies. It describes conflicting results and shows how different research designs, samples, measures and so on account for different results.

Lesson No. 18

Criteria for Good Measurement

- **Validity**_ Validity is the ability of an instrument to measure what it is supposed to measure.
 - **Content Validity**_ The content validity of a measuring instrument is the extent to which it provides adequate coverage of the investigative questions guiding the study. If the instrument contains a representative sample of the universe of subject matter of interest, then the content validity is good.

Lesson No. 19

Research Design

- **Research Design**

A research design is a master plan specifying the methods and procedures for collection and analyzing the data. It is a strategy or blueprint that plans the action for carrying through the research project data and It also involves a series of rational decision making choices depending upon the various options available to the researcher's. Broadly it is composed of different elements like,
- **Different Elements of Research Design**
 - **Purpose of Study**_ From the perspective of purpose of the study, a research can be exploratory, descriptive and explanatory. Beyond the **exploratory stage** now we are entering into the formal stage of delineate the plan for data collection, data processing, and data analysis. If the research is concerned with finding out who, what, where, when, or how much, then the study is **descriptive**. If it is concerned with learning why, that is how one variable produces changes in another it **is causal**. If we try to explain relationship among variables then the study is **explanatory**.
 - **Unit of Analysis**_ The unit of analysis refers to the level of aggregation of the data collected during the subsequent data analysis stage. Units of analysis in a study are typically also the units of observation. If the researcher is interested in studying two person interactions, then several two person groups known as dyads will

become the unit of analysis. If the problem statement is related to group effectiveness, the unit of analysis would be at **group level**. If we compare different departments in the organization, then data analysis will be done at the **department level**.

- **Time Dimension**_ When we make the observations more or less at one time or over a long period, former called as **Cross Sectional studies** and the latter as **longitudinal studies**. **Cross Sectional Studies**_ is carried out once and represents a snapshot of one point in time and data are collected just once, over a period of days or weeks or months in order to answer the research question. **Longitudinal Studies**_ are representing over an extended period and it can track changes over time. It can be panel studies and cohort studies.
- **Research control of Variables**_ In terms of researcher's ability to manipulate variables, we can differentiate between **experimental** and **ex facto design**. **Experimental Design**_ In an experiment the researcher attempts to control and / or manipulate the variables in the study. Experimental design is appropriate when one wish to discover certain variables produce effects in other variables and provides the most powerful support possible for hypothesis of causation. It can be contrived and non contrived. **Ex Facto Design**_ Investigators have no control over the variables in the sense of being able to manipulate them? They can only report what has happened or what is happening. Survey research is an example of such study.
- **Choice of Research Design**_ They could be number of ways to collect the data depending upon whether the study is quantitative or qualitative, descriptive or explanatory, cross sectional or longitudinal, and contrived or non contrived, the researcher decides about the mode of observation.
- **Sampling Design**_ The basic idea of sampling is that by selecting some of the elements in population, we may draw conclusions about the entire population. Sampling has its own advantages and disadvantages, and depending upon the nature of the study the researcher's decides about sampling design.
- **Field Data Collection**_ Depending upon the mode of observation, the researcher will outline the procedure for field operations.
- **Data Processing and Data Analysis**_ In the research design the researcher is require telling how the data shall be processed and analysis plans explicated. In case the qualitative data are to be quantifies the procedures should be spelled out.

➤ **Steps in conducting Survey Research**

- **Develop the Survey Instrument**_ The researcher's develops an instrument like a survey questionnaire or interview schedule that researcher's uses to measure variables. Respondents read the questions themselves and mark answers on a questionnaire or a set of questions read to the respondent by an interviewer, who also records the responses. To simplify the discussion, we will use only the term questionnaires.
- **Plan how to record data**_ When preparing the questionnaire, the researcher thinks ahead to how will record and organize data for analysis.

- **Decide on target population, get sampling frame, decide on sample size, and select the sample.**
- **Locate Respondents_** The researcher locates sampled respondents in person, by telephone, or by mail who given information and instructions on completing the questionnaire or interview.
- **Describe methods and findings in research report, present findings to others for analysis and evaluation.**

Lesson No. 20

Survey Research

- **Personal Interview_** A personal interview is a two way conversation initiated by an interviewer to obtain information from a respondent and differences in the role of the interviewer and the respondent are pronounced. Personal may take place in a factory, in a homeowner's doorway, in an executive's office, in a shopping mall or in other settings.
 - ✦ **Advantages of Personal Interview**
 - ✦ **The opportunities for feedback_** Personal interviews allow for feedback. The interviewer provides feedback in clarifying any questions an employee. At the conclusion of the interview, respondent given additional information concerning the purpose of the study.
 - ✦ **Probing Complex Question_** An important characteristic of personal interview is the opportunity to follow up by probing. Probing becomes the more important when the questions don't have structured response categories. The complex question that cannot easily be asked in telephone or mail surveys can be handled by skillful interviewers.
 - ✦ **Length of Interview_** If the researcher objective requires an extremely lengthy questionnaire, personal interviews may be the only alternative.
 - ✦ **Proposed and Visual Aids_** Interviewing respondents face to face allows an investigator to show them a new product sample, a sketch of proposed office, or some other visual aid. The respondents can even taste samples of different products and can give their evaluations.
 - ✦ **High Participation Rate_** In personal interviews there is a higher rate of participation rate of the respondents compared with mail surveys and telephone interviews. While some people are reluctant to participate in a survey, the presence of an interviewer generally increases the percentages of people willing to complete the interview. Most people enjoy sharing information and insights with friendly and sympathetic interviewers.
 - ✦ **Non Literates can Participate in Study_** Nice the respondent has neither to read nor to write, therefore, an illiterate person can also take part in the survey study.
 - ✦ **Computer Assistant Personal Interviewing_** With the use of modern technology the responses of the respondent can be entered into a portable microcomputer to reduce error and cost.

✦ Disadvantages of Personal Interview

- ✦ **High Cost**_ Personal interviews are generally more expensive than mail, internet, and telephone surveys because the training of the field interviewers, supervision, and other logistical support cost may add up the total cost of the study. People usually estimate the cost of personal interviews is usually 15 times higher than the mail survey.
- ✦ **Lack of Secrecy of Respondent**_ Because the respondent in a personal interview is not unknown therefore he or she may be reluctant to provide confidential information to another person.
- ✦ **Callbacks**_ When the person selected to be in the sample cannot be contacted on the first visit, a systematic procedure is normally initiated to callback at another time which is a labor intensive work and definitely increases the cost.
- ✦ **Interviewer Influence**_ There is some evidence that the demographic characteristics of the interviewer influence respondents' answers.
- ✦ **No Opportunity to Consult**_ The interview may take place anywhere, place of work, in the shopping mall, and at home the respondent may be unable to consult record, in case he or she has to do so for any specific question.
- ✦ **Some Neighborhoods are Difficult to Visit**_ Due to security reasons some neighborhoods may not allow outsiders to enter the permission.

Lesson No. 21

Intercept Interviews in Mall and other High Traffic Areas

- **Telephone Interviewing** _ Telephone interviewing has been a main stay of commercial survey research and the quality of data obtained by telephone may be comparable to that collected in personal interview. Telephone survey provides representative samples of general population in most industrialized countries.

Strengths of Telephone Interviewing

- **High Speed**_ The speed of data collection is a major advantage of telephone interviewing, whereas data collection with mail or personal interview can take several weeks. When the interviewer enters the respondents' answers directly into a computer system, data processing can be done even faster.
- **Save Cost**_ As the cost of personal interview continues to increase, telephone interviews are becoming relatively inexpensive, estimated 25% less than personal interview.
- **Callbacks**_ An unanswered call a respondent who is not at home requires a callback. Telephone callbacks are substantially easier and less expensive than personal interview callbacks.
- **Better Access too hard to Reach Respondents**_ Some people don't want to go for person to person interviewing and may be reluctant to visit certain neighborhoods, especially in the evening, so, telephone interviewing overcomes such problems.

- **Computer Assisted Telephone Interviewing**_ Responses can be directly entered into computer file to reduce error and cost.

Weaknesses of Telephone Interviewing

- **Absences of Face to Face Contact**_ Telephone interviews are more impersonal than face to face interviews. Absence of face to face contact can be a liability. The interviewer and the respondents don't see each other what they are doing.
- **Response Rate is lower than personal interviews**_ Some individuals refuse to participate in telephone interviews. So, response rate in telephone interviews is lower than personal interviews.
- **Lack of Visual Medium**_ Researcher requiring visual material cannot be conducted by phone.
- **Limited Duration**_ Length of interview limited. Respondents may hang up when they feel spent up.
- **Distracting Physical Environment**_ Multiple phones distract the interview situation which may affect the quality of the data.

Mail Questionnaire_ A mail survey is a self administered questionnaire sent to respondents through the mail. This paper and pencil method has several advantages and disadvantages.

Advantages of Mail Questionnaire

- **Geographic Flexibility**_ Mail questionnaires can reach a geographically dispersed sample separately and at a reasonably low cost because interviewers are not required. Respondent's those who are difficult to reach can be contacted more easily by mail.
- **Sample Accessibility**_ Researchers can contact participants who may otherwise be inaccessible. But researchers can often access these special participants by mail or computer.
- **Self Administrated Questionnaires**
- **Save Cost**_ Mail questionnaires are relatively economical compared to personal interviews and telephone surveys. However, these may not be so cheap.
- **Standard Questions**_ Mail questionnaires are highly standardized, and the questions are quite structured.

Disadvantages of Mail Questionnaires

- **Low Response Rate**_ Mail Questionnaire has very low rate of return of the filled questionnaires.
- **Low Completion Rate**_ There are chances that respondents leave many questions as unanswered, either because they did not understand the question.
- **Increases Cost**_ The researcher keeps on waiting for the return. When enough response is not there, then the reminders are sent. With the reminders copies of the questionnaires are sent then all this adds to the cost of the study.

Lesson No. 22

Self Administered Questionnaires

- **Cover Letter_** The cover letter that conveys the questionnaire or is printed on the first page of the questionnaires is an important means of inducing a reader to complete and return the questionnaire. A personalized cover letter addressed to a specific individual show the respondent that he or she is important and individually typed letter on letter head versus printed form is an important element in increasing the response rate in mail surveys.
- **Follow Up_ Follow** up implies the communication of the message to respondents through different means of the return of questionnaire. A follow up may include a duplicate questionnaire or may merely reminder to return the original questionnaire. Multiple contacts almost always increase response rates.
- **Money Helps_** The respondent's motivation for returning a questionnaire may be increased by offering monetary incentives or premiums, such as pens, lottery tickets, and variety of premiums. Money incentive works for all income categories.
- **Survey Sponsorship_** Sponsorship of the study makes a difference for motivation the respondents to return the questionnaires. It depends up the goodwill of the sponsoring agency that can activate or deactivate the respondent to fill the questionnaire and return it. Sponsorship by well known and prestigious organization such as universities or government agencies may significantly influence response rates.
- **Interesting Questions_** In the topic of research certain interesting question can be added to the questionnaire, perhaps in the beginning to stimulate the respondent's interest and to induce cooperation.
- **Benefits of Email Surveys_** include speed of distribution, lower distribution, processing cost, faster turnaround time, more flexibility, and less handling of paper questionnaires.
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- **Internet Surveys_** An internet survey is a self administrated questionnaires posted on a web site. Respondents provide answers to question displayed on screen by highlighting a phrase, clicking an icon, or keying in an answer.

Advantages of Internet Surveys

- **Speed and Cost Effective_** Internet survey allow the marketers to reach a large audience, to personalize the individual messages, and to secure confidential answers quickly and cost effective because computer to computer self administrated questionnaires eliminated the cost of paper, postage, data entry, and other administrative costs.
- **Visual Appeal and Interactivity_** Internet surveys can be interactive because the researcher can use more sophisticated lines of questioning based on the respondents prior answers and excellent medium fort like presentation of visual materials, such as photographs, advertisements, and movie trailers.
- **Callbacks_** When the sample for internet survey is drawn from a consumer panel, it is easy to recontact those who have not yet completed the questionnaire.

- **Accurate Real Time Data Capture_** Accurate real time data capture allows for real time data analysis. A researcher can review up to the minute sample size counts and tabulation data from an internet survey in real time.
- **Response Rate_** Response rate can be increased by sending email friendly reminders.

Disadvantages of Internet Surveys

- **All People Cannot Participate_** Many people in the general public cannot access to internet and all people with internet access don't have the same level of technology. Many lack powerful computer or software that is compatible with advanced features programmed into many internet questionnaires. Some individuals have minimum computer skills and may not know how to navigate through and provide answers to internet questionnaires.
- **No Physical Incentive_** Unlike mail or internet surveys don't offer the opportunity to send a physical incentive to the respondent.

Lesson No. 23

Tools for Data Collection

- **Tools For Data Collection_** Broadly there are three tools for data collection as part of communication surveys. These are
 - **Interview Schedule_** Interview schedule is predesigned list of question used for communication with the respondent. In case of interview schedule, the list of questions remains in the hands of the interviewer, he asks questions from the respondent, and gets his or her responses and recorded it.
 - **Questionnaire_** Questionnaire is also a predesigned list of questions used for communication with the respondent. Questionnaire is also a list of questions, which handed over to the respondent, who reads the questions and records the answers himself.
 - **Interview Guide_** It is a list of topics that are to be covered during the course of interview. Interview guide is used for purposes for an in depth interviewing. In interview guide questions on the topics are formulated on the spot and most of the questions are open ended.

Guidelines for Questionnaire Design_ Questionnaire design is one of the most critical stages in the survey research process. While common sense and good grammar is required in the art of questionnaire design. Further proper wording the questionnaire is crucial, as some problems may be minimized or avoided altogether if a skilled researcher composes the questions. A good questionnaire forms an integrated whole.

- **Questionnaire Relevancy_** A questionnaire is relevant if the information that is needed to solve the problem is obtained. Asking the wrong or irrelevant question is a pitfall to be avoided. If the task is to pinpoint compensation.

- **Questionnaire Accuracy_** Accuracy means that the information is reliable and valid. Obtaining accurate information from respondents is strongly influenced by the researcher's ability to design a questionnaire that facilitates recall and that will motivate the respondent to cooperate. Therefore avoid jargon, slang, and abbreviations and words used in the questionnaire should be readily understandable to all respondent.
- **Avoid Double Barreled Question_** Make each question about one and only one. A double barreled question consists of two or more questions joined together and makes the respondent's answer unclear.
- **Avoid Leading Questions_** Make respondent's feel that all responses are legitimate. Don't let them aware of an answer that the researcher wants. A leading question is the one that leads the respondent's to choose one response over another by its wording.
- **Use Filter Question_** Filter Question is that question which screens out respondent's not qualified to answer a second question. Filter questions minimizes the chances of asking questions that are inapplicable.
- **Layout of the Questionnaire_** Good layout and physical attractiveness is crucial in mail, internet, and other self administrated questionnaires. There are two format or layout issues (i) the overall physical layout of the questionnaire and (ii) the format of questions and responses.