SOS POLITICAL SCIENCE AND PUBLIC ADMINISTRATION
M.A.PUB.ADMN.403
SUBJECT NAME:METHODS AND TECHNIQUES OF RESEARCH & STATISTICS
UNIT-II
TOPIC NAME:RESEARCH DESIGNS

WHAT IS RESEARCH DESIGN

- Decisions regarding what, where, when, how much, by what means concerning an inquiry or a research study constitute a research design.

MEANING OF RESEARCH DESIGN

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

THE ESSENTIAL ELEMENTS OF THE RESEARCH DESIGN ARE:

Accurate purpose statement
Techniques to be implemented for collecting and analyzing research
The method applied for analyzing collected details
Type of research methodology
Probable objections for research
Settings for the research study
Timeline
Measurement of analysis

THEORY TESTING AND THEORY CONSTRUCTION

CLASSIFIED RESEARCH DESIGN.

Qualitative research design: Qualitative research determines relationships between collected data and observations based on mathematical calculations. Theories related to a naturally existing phenomenon can be proved or disproved using statistical methods. Researchers rely on qualitative research design methods that conclude “why” a particular theory exists along with “what” respondents have to say about it.

Quantitative research design: Quantitative research is for cases where statistical conclusions to collect actionable insights are essential. Numbers provide a better perspective to make critical business decisions. Quantitative research design methods are necessary for the growth of any organization. Insights drawn from hard numerical data and analysis prove to be highly effective when making decisions related to the future of the business

FEATURES OF A GOOD RESEARCH DESIGN

A research design appropriate for a particular research problem, usually involves the consideration of the following factors.

- The means of obtaining information.
- The availability and skills of the researcher and his staff, if any.
- The objective of the problem to be studied.
- The nature of the problem to be studied .
- The availability of time and money for the research work

RESEARCH DESIGN PURPOSE –

- To provide a plan in answering research question.
- Each design has its own applicability depending on the problems and objectives of the study.
- Important consideration – to minimize possible errors and maximize the reliability and validity of data.

RELIABILITY AND VALIDITY

Reliability

- refers to the consistency, stability, or dependability of the data.
- A research method should yield the same results, even if conducted twice or more

Validity

- refers to data that are not only reliable but also true and accurate.
- It refers to which extent an instrument is able to actually measure what it is supposed to measure.

THREATS TO VALIDITY

Threats to Validity

1. History2. Selection3. Testing4. Instrumentation5. Maturation6. Mortality

CHARACTERISTICS OF ARESEARCH DESIGN

• The setting in which the research occurs a. Laboratory Studies – Designed to be more highly controlled in relation to both the environment in which the study is conducted and the control of extraneous and intervening variables. . Field Studies – occur outside laboratory setting. – This occurs in natural settings and use a variety of methods such as: • field experiments, • participant's observations in village or hospital wards, • interviews in the home or office, • questionnaires, • anything at all that does not occur in a controlled laboratory setting.

. Timing of data collection. Prospective or Longitudinal studies – events that are underway or expected to occur in the future's. Retrospective, ex post facto or historical studies – have occurred in the past's. Cross-sectional studies – Those in which data collection is strictly in the present time. . The subjects to be included in the research• The sample size or number of subjects in the study• The method used to collect the data• The researcher’s plan for communicating the findings

IMPORTANT CONCEPTS RELATING TO RESEARCH DESIGN

- A concept which can take on different quantitative values is called a variable.
- A phenomena which can take on different qualitatively values even in decimal value are called continues.

DEPENDENT AND INDEPENDENT VARIABLES:

- If one variable is depend on another variable it is termed as a dependent variable.
- The variable that is antecedent to the dependent variable is an independent variable.
- Ex. Height is dependent on age

Research Hypothesis

- When a prediction or a hypothesized relationship is to be tested by scientific methods, it is termed as a research hypothesis.
- The Research Hypothesis is a predicative statement that relates an independent variable to dependent variable

TYPES OF RESEARCH DESIGNS.

Exploratory Research Design:

This design is followed to discover ideas and insights to generate possible explanations. It helps in exploring the problem or situation. It is, particularly, emphasized to break a broad vague problem statement into smaller pieces or sub-problem statements that help forming specific hypothesis.

The hypothesis is a conjectural (imaginary, speculative, or abstract) statement about the relationship between two or more variables. Naturally, in initial state of the study, we lack sufficient understanding about problem to formulate a specific hypothesis. Similarly, we have several competitive explanations of marketing phenomenon. Exploratory research design is used to establish priorities among those competitive explanations.

The exploratory research design is used to increase familiarity of the analyst with problem under investigation. This is particularly true when researcher is new in area, or when problem is of different type Designs:

This design is followed to realize following purposes:

1. Clarifying concepts and defining problem
2. Formulating problem for more precise investigation
3. Increasing researcher's familiarity with problem
4. Developing hypotheses
5. Establishing priorities for further investigation

DESCRIPTIVE RESEARCH DESIGN:

Descriptive research design is typically concerned with describing problem and its solution. It is more specific and purposive study. Before rigorous attempts are made for descriptive study, the well-defined problem must be on hand. Descriptive study rests on one or more hypotheses.

CAUSAL OR EXPERIMENTAL RESEARCH DESIGN:

Causal research design deals with determining cause and effect relationship. It is typically in form of experiment. In causal research design, attempt is made to measure impact of manipulation on independent variables (like price, products, advertising and selling efforts or marketing strategies in general) on dependent variables (like sales volume, profits, and brand image and brand loyalty). It has more practical value in resolving marketing problems. We can set and test hypotheses by conducting experiments.

Action Research
Case Study Design
Causal Design
Cohort Design
Cross-Sectional Design
Historical Design
Longitudinal Design
Meta-Analysis Design
Observational Design

Different Research Design

- In case of Exploratory Research study
- In case of Descriptive and Diagnostic Research
- In case of Hypothesis- Testing Research studies

SUMMARY

The purpose of research design in both descriptive and explanatory research. In explanatory research the purpose is to develop and evaluate causal theories. The probabilistic nature of causation in social sciences, as opposed to deterministic causation, was discussed.

Research design is not related to any particular method of collecting data or any particular type of data. Any research design can, in principle, use any type of data collection method and can use either quantitative or qualitative data. Research design refers to the structure of an enquiry: it is a logical matter rather than a logistical one.