Research Design

Research Design

- ***The research design is the master plan specifying the methods and procedures for collecting and analyzing the needed information.***

Types of Research Design

- *Although every problem and research objective may seem unique, there are usually enough similarities among problems and objectives to allow decisions to be made in advance about the best plan to resolve the problem.*
- *There are some basic marketing research designs that can be successfully matched to given problems and research objectives.*

Types of Research Design

- *Three traditional categories of research design:*
  - **Exploratory**
  - **Descriptive**
  - **Causal**
- *The choice of the most appropriate design depends largely on the objectives of the research and how much is known about the problem and these objectives.*

Research Design: Some Observations

- *The overall research design for a project may include one or more of these three designs as part(s) of it.*
- *Further, if more than one design is to be used, typically we progress from Exploratory toward Causal.*

Basic Research Objectives and Research Design

Research Objective	Appropriate Design
To gain background information, to define terms, to clarify problems and develop hypotheses, to establish research priorities, to develop questions to be answered	Exploratory
To describe and measure marketing phenomena at a point in time	Descriptive
To determine causality, test hypotheses, to make “if-then” statements, to answer questions	Causal

Research Design: Exploratory Research

- ***Exploratory research is most commonly unstructured, "informal" research that is undertaken to gain background information about the general nature of the research problem.***
- ***Exploratory research is usually conducted when the researcher does not know much about the problem and needs additional information or desires new or more recent information.***

Research Design: Exploratory Research

- *Exploratory research is used in a number of situations:*
  - To gain background information
  - To define terms
  - To clarify problems and hypotheses
  - To establish research priorities

Research Design: Exploratory Research

- *A variety of methods are available to conduct exploratory research:*
  - **Secondary Data Analysis**
  - **Experience Surveys**
  - **Case Analysis**
  - **Focus Groups**
  - **Projective Techniques**

Research Design: Descriptive Research

- *Descriptive research is undertaken to provide answers to questions of who, what, where, when, and how – but not why.*
- *Two basic classifications:*
  - **Cross-sectional studies**
  - **Longitudinal studies**

Research Design: Descriptive Research
Cross-sectional Studies

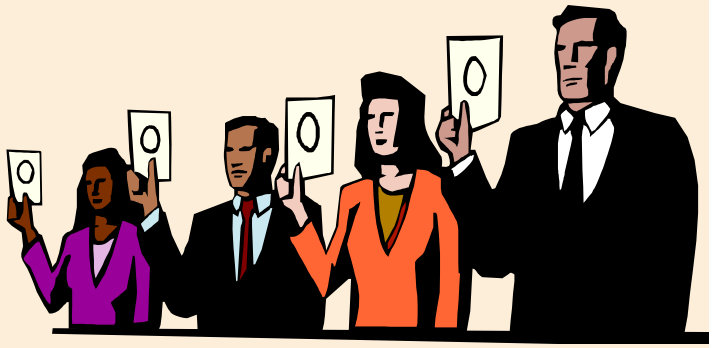
- ***Cross-sectional studies** measure units from a sample of the population at **only one point in time.***
- ***Sample surveys are cross-sectional studies whose samples are drawn in such a way as to be representative of a specific population.***
- ***On-line survey research is being used to collect data for cross-sectional surveys at a faster rate of speed.***

Research Design: Descriptive Research
Longitudinal Studies

- ***Longitudinal** studies **repeatedly draw** sample units of a population over time.*
- **One method is to draw different units from the same sampling frame.**
- ***A second method is to use a "panel" where the same people are asked to respond periodically.***
- ***On-line survey research firms recruit panel members to respond to online queries.***

Research Design: Descriptive Research
Longitudinal Studies

- *Two types of panels:*
  - **Continuous panels ask panel members the same questions on each panel measurement.**
  - **Discontinuous (Omnibus) panels vary questions from one time to the next.**
- *Longitudinal data used for:*
  - **Market tracking**
  - **Brand-switching**
  - **Attitude and image checks**



Research Design: Causal Research

- *Causality may be thought of as understanding a phenomenon in terms of conditional statements of the form "If x, then y."*
- *Causal relationships are typically determined by the use of experiments, but other methods are also used.*

Experiments

- *An experiment is defined as manipulating (changing values/situations) one or more independent variables to see how the dependent variable(s) is/are affected, while also controlling the affects of additional extraneous variables.*
  - Independent variables: ***those over which the researcher has control and wishes to manipulate i.e. package size, ad copy, price.***
  - Dependent variables: ***those over which the researcher has little to no direct control, but has a strong interest in testing i.e. sales, profit, market share.***
  - Extraneous variables: ***those that may effect a dependent variable but are not independent variables.***

Experimental Design

- *An experimental design is a procedure for devising an experimental setting such that a change in the dependent variable may be solely attributed to a change in an independent variable.*
- *Symbols of an experimental design:*
  - ***O*** **= measurement of a dependent variable**
  - ***X*** **= manipulation, or change, of an independent variable**
  - ***R*** **= random assignment of subjects to experimental and control groups**
  - ***E*** **= experimental effect**

Experimental Design

- *After-Only Design:* $X\ O_1$
- *One-Group, Before-After Design:* $O_1\ X\ O_2$
- *Before-After with Control Group:*
  - **Experimental group:** $O_1\ X\ O_2$
  - **Control group:** $O_3\quad O_4$
  - **Where** $E = (O_2 - O_1) - (O_4 - O_3)$

How Valid Are Experiments?

- *An experiment is valid if:*
  - **the observed change in the dependent variable is, in fact, due to the independent variable (internal validity)**
  - **if the results of the experiment apply to the "real world" outside the experimental setting (external validity)**

Types of Experiments

- ***Two broad classes:***
  - **Laboratory experiments**: ***those in which the independent variable is manipulated and measures of the dependent variable are taken in a contrived, artificial setting for the purpose of controlling the many possible extraneous variables that may affect the dependent variable***
  - **Field experiments**: ***those in which the independent variables are manipulated and measurements of the dependent variable are made on test units in their natural setting***

Test Marketing

- *Test marketing is the phrase commonly used to indicate an experiment, study, or test that is conducted in a field setting.*
- *Two broad classes:*
  - **To test the sales potential for a new product or service**
  - **To test variations in the marketing mix for a product or service**

Types of Test Markets

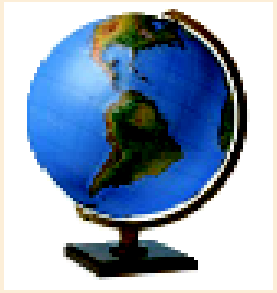
- *Standard test market:* **one in which the firm tests the product and/or marketing mix variables through the companies normal distribution channels**
- *Controlled test markets:* **ones that are conducted by outside research firms that guarantee distribution of the product through prespecified types and numbers of distributors**

Types of Test Markets...cont.

- *Electronic test markets:* **those in which a panel of consumers has agreed to carry identification cards that each consumer presents when buying goods and services**
- *Simulated test markets:* **those in which a limited amount of data on consumer response to a new product is fed into a model containing certain assumptions regarding planned marketing programs, which generates likely sales volume**

Test Markets

- *Test marketing is used in both consumer markets and industrial or B2B markets as well.*
- *Lead country test market:* **test marketing conducted in specific foreign countries that seem good predictors for an entire continent**



Criteria for Selecting Test Market Cities

- *Representativeness*: **Do demographics match the total market?**
- *Degree of isolation:* ***Phoenix and Tulsa are isolated markets; Los Angeles is not isolated.***
- *Ability to control distribution and promotion:* ***Are there preexisting arrangements to distribute the new product in selected channels of distribution? Are local media designed to test variations in promotional messages?***

Test Marketing

- *Pros:*
  - Allows most accurate method of forecasting future sales
  - Allows firms the opportunity to pretest marketing mix variables
- *Cons:*
  - Does not yield infallible results
  - Are expensive
  - Exposes the new product or service to competitors
  - Takes time to conduct