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Chapter 5

Descriptive and Causal Research Designs

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Learning Objectives

- Explain the purpose and advantages of survey research designs
- Describe the types of survey methods
- Discuss the factors influencing the choice of survey methods
- Explain experiments and the types of variables used in causal designs
- Define test marketing and evaluate its usefulness in marketing research

5-2

Value of Descriptive and Causal Survey Research Designs

- Quantitative methods of collecting primary data involve much larger samples
 - Including survey designs used in descriptive and causal research

5-3

Descriptive Research Designs and Surveys

- Selection of a descriptive research design is based on three factors:
 - Nature of the initial problem or opportunity
 - Research questions
 - Research objectives
- Approaches used to collect data for descriptive research:
 - Asking questions
 - Observation

54

Exhibit 5.1 - Advantages and Disadvantages of Quantitative Survey Research Designs

Advantages of Survey Methods

- Can accommodate large sample sizes so that results can be generalized to the target population
- Produce precise enough estimates to identify even small differences
- Easy to administer and record answers to structured questions
- Facilitate advanced statistical analysis
- Concepts and relationships not directly measurable can be studied

Disadvantages of Survey Methods

- Questions that accurately measure respondent attitudes and behavior can be challenging to develop
- In-depth data difficult to obtain
- Low response rates can be a problem

58

Descriptive Research Designs and Surveys

- **Survey research methods:** Research procedures for collecting large amounts of data using question-and-answer formats
 - Descriptive research designs often result in the use of survey research methods

56

Types of Errors in Surveys

- **Sampling errors**
 - The difference between the findings based on the sample and the true values for a population
 - Caused by the method of sampling used and the size of the sample
 - Can be reduced by:
 - Increasing sample size
 - Using the appropriate sampling method

5-7

Nonsampling Errors

Respondent Errors

- Consist of both nonresponse error and response error

Nonresponse Error

- A systematic bias that occurs when the final sample differs from the planned sample

Response Error

- When respondents have impaired memory or do not respond accurately

5-8

Exhibit 5.2 - Major Types of Survey Research Methods

Type of Survey Research	Description
Person-Administered	
In-home interview	An interview takes place in the respondent's home or, in special situations, within the respondent's work environment (in-office). Shopping patrons are stopped and asked for feedback during their visit to a shopping mall.
Mall-intercept interview	
Telephone-Administered	
Traditional telephone interview	An interview takes place over the telephone. Interviews may be conducted from a central telephone location or the interviewer's home.
Computer-assisted telephone interview (CATI)	A computer is used to assist in a telephone interview.
Wireless phone surveys	Wireless phones are used to collect data. The surveys may be text-based or Web-based.
Self-Administered	
Mail survey	Questionnaires are distributed to and returned from respondents via the postal service or overnight delivery.
Online surveys	The Internet is used to ask questions and record responses from respondents.
Mail panel survey	Surveys are mailed to a representative sample of individuals who have agreed in advance to participate.
Drop-off survey	Questionnaires are left with the respondent to be completed at a later time. The surveys may be picked up by the researcher or returned via mail.

5-9

Exhibit 5.3 - Advantages and Disadvantages of Person-Administered Surveys

Advantages	
Adaptability	Trained interviewers can quickly adapt to respondents' differences.
Rapport	Not all people are willing to talk with strangers when asked to answer a few questions. Interviewers can help establish a "comfort zone" during the questioning process and make the process of taking a survey more interesting to respondents.
Feedback	During the questioning process, interviewers can answer respondents' questions and increase the respondents' understanding of instructions and questions and capture additional verbal and nonverbal information.
Quality of responses	Interviewers can help ensure respondents are screened to represent the target population. Respondents are more truthful in their responses when answering questions in a face-to-face situation as long as questions are not likely to result in social desirability biases.
Disadvantages	
Possible recording error	Interviewers may incorrectly record responses to questions.
Interviewer-respondent interaction error	Respondents may interpret the interviewer's body language, facial expression, or tone of voice as a clue to how to respond to a question.
High expense	Overall cost of data collection using an interviewer is higher than other data collection methods.

5-10

Exhibit 5.4 - Advantages and Disadvantages of Self-Administered Surveys

Advantages	
Low cost per survey	With no need for an interviewer or computerized assistance device, self-administered surveys are by far the least costly method of data acquisition.
Respondent control	Respondents are in total control of how fast, when, and where the survey is completed, thus the respondent creates his/her own comfort zone.
No interviewer-respondent bias	There is no chance of introducing interviewer bias or interpretive error based on the interviewer's body language, facial expression, or tone of voice.
Anonymity in responses	Respondents are more comfortable in providing honest and insightful responses because their true identity is not revealed.
Disadvantages	
Minimize flexibility	The type of data collected is limited to the specific questions initially put on the survey. It is impossible to obtain additional in-depth data because of the lack of probing and observation capabilities.
High nonresponse rates	Most respondents will not complete and return the survey.
Potential response errors	The respondent may not fully understand a survey question and provide incorrect responses or mistakenly skip sections of the survey. Respondents may unconsciously commit errors while believing they are responding accurately.
Slow data acquisition	The time required to obtain the data and enter it into a computer file for analysis can be significantly longer than other data collection methods.
Lack of monitoring capability	Not having an interviewer present can increase misunderstanding of questions and instructions.

5-11

Selecting the Appropriate Survey Method

- Situational characteristics
 - Budget
 - Completion time frame
 - Quality requirements
 - Completeness of data
 - **Data generalizability:** Projectable to the population represented by the sample in a study
 - Data precision

5-12

Selecting the Appropriate Survey Method

- Task characteristics
 - Task difficulty
 - Required stimuli
 - Amount of information asked from respondents
 - **Topic sensitivity:** The degree to which a survey question leads the respondent to give a socially acceptable response

5-13

Selecting the Appropriate Survey Method

- Respondent characteristics
 - Diversity
 - **Incidence rate:** The percentage of the general population that is the subject of the market research
 - Respondent participation
 - **Ability to participate:** The ability of both the interviewer and the respondent to get together in a question-and-answer interchange
 - **Willingness to participate:** The respondent's inclination or disposition to share his or her thoughts
 - **Knowledge level:** Degree to which the selected respondents feel they have knowledge of or experience with the survey's topics

5-14

Causal Research Designs

- **Causal research:** Studies that enable researchers to assess “cause-effect” relationships between two or more variables
 - **Independent variables:** Variables whose values are directly manipulated by the researcher
 - **Dependent variables:** Measures of effects or outcomes that occur as a result of changes in levels of the independent or causing variable(s)

5-15

Causal Research Designs

- Research requires researchers to collect data using experimental designs
 - **Experiment:** An empirical investigation that tests for hypothesized relationships between dependent variables and manipulated independent variables

5-16

The Nature of Experimentation

- Experiments can explain cause-and-effect relationships between variables/constructs and determine why events occur
 - **Variable:** A concept or construct that can vary or have more than one value

5-17

The Nature of Experimentation

- **Control variables:** Do not vary freely or systematically with independent variables
 - Should not change as the independent variable is manipulated
- **Extraneous variables:** Any variables that experimental researchers do not measure or control that may affect the dependent variable

5-18

Comparing Laboratory and Field Experiments

- **Laboratory (lab) experiments:** Causal research designs that are conducted in an artificial setting
- **Field experiments:** Causal research designs that manipulate the independent variables in order to measure the dependent variable in a natural setting
 - Performed in natural or “real” settings

5-19

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The end!

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