CHAPTER 8
Primary Data Collection: Experimentation

Learning Objectives
1. To understand the nature of experiments.
2. To gain insight into proving causation.
3. To learn about the experimental setting.
4. To examine experimental validity and the threats to validity.
5. To learn the disadvantages of experiments that limit their use in marketing research.

Learning Objectives
6. To compare preexperimental designs, true experimental designs, and quasi-experimental designs.
7. To gain insight into test marketing.
Learning Objective
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WHAT IS AN EXPERIMENT?
The researcher changes an independent variable to observe changes in the dependent variable.

For example,
Dependent variable
total sale or market share
Independent variable
price, advertising, product features

DEMONSTRATING CAUSATION
Concomitant Variation:
correlation: vary together in some predictable fashion

Appropriate Time Order of Occurrence:
a occurred before B occurred

Elimination of Other Possible Causal Factors
B was not caused by some factor other than A

THE EXPERIMENTAL SETTING—LABORATORY OR FIELD
Laboratory Experiments: the ability to control all variables

Experimental Validity: free from both systematic and random error.
Internal Validity: to avoid competing explanations
External Validity: to generalize

Experimental Notation:
X indicates exposure
O for observation
O₁ X O₂ for time periods

Learning Objective
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To gain insight into proving causation.

To experimental validity and the threats to validity.
Learning Objective
To learn the disadvantages of experiments that limit their use.

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Extraneous Variables: Threats to Experimental Validity
- History
- Maturation
- Instrument Variation
- Selection Bias
- Mortality
- Testing Effect
- Regression to the Mean

Experimental Design and Treatment
- Experimental Design: treatment, subjects, dependent variable, a plan
- Treatment: the independent variable
- Experimental Effects: the effect of the treatment variables on the dependent variable

The Control of Other Causal Factors
- Randomization
- Physical Control
- Design Control
- Statistical Control

Why Are Experiments Not Used More Often?
- The High Cost of Experiments: costly in both time and money
- Security Issues: exposing to the actual marketplace, competitors
- Implementation Problems: cooperation, contamination, differences: test market/population, lack of control group
### Selected Experimental Designs

**Three Preexperimental Designs**
- The One-Shot Case Study
- The One-Group Pretest-Posttest Design
- The Static-Group Comparison

**Three True Experimental Designs**
- Before and After with Control Group
- The Solomon Four-Group Design
- The After-Only with Control Group

### Quasi-Experiments

- Interrupted Time-Series Design
- Multiple Time-Series Designs

### Test Markets

- **Test Market Usage and Objectives**
  - Test market studies: market share, cannibalization rate

- **Costs of Test Marketing**

- **Deciding Whether to Conduct a Test Market**

- **Steps in a Test Market Study**
  - Define the Objective
### Learning Objective
To gain insight into test marketing.

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**TEST MARKETS**

- Select a Basic Approach
  - Simulated test markets
  - Standard test market
  - Controlled test market

- Develop Detailed Procedures for the Test

- Select Markets for the Test
  - The markets should not be overtested
  - Normal market development

### TEST MARKETS

- Reflect significant regional differences
- Little media spillover to other markets
- Similar to national norms
- Big enough for meaningful results
- Distribution channels
- Competition
- Demographic profiles

#### Execute the Plan

### Analyze the Test Results

- Purchase data
- Awareness data
- Competitive response
- Source of sales

#### Simulated Test Markets

- Intercept customers
- Screen customers
- Expose to new product concept
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**TEST MARKETS**
- Opportunity to buy the new product
- Interview
- Trial and repeat purchase estimates

**Alternatives to Test Marketing**
- A rolling rollout. Lead country strategy.
- Lead country strategy: foreign markets
- Line extensions