MBA 5652
Research Methods
Unit V:
Experimentation & Observation Research
Outcomes

Upon completion of this unit, students should be able to:

- Appraise experimentation and observation research methods.

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Appraise experimentation and observation research methods.
Experimental research brings forth visions of bubbling test tubes and such from the physical sciences. While this is a well-known approach to experimental research, the social sciences also use this form of research. Basically, what this entails is that the researcher is able to control variables (much like in a laboratory) and evaluate the relationships that result.

For instance, there could be two groups that you are measuring. One group is subjected to one treatment, and the other is not. The treatment varies with discipline. In the marketing field, one group might be subjected to a price increase—and the other to no price increase. The effect on sales might be measured. In the occupational safety and health field, one group might be provided with a significant amount of training—and the other, no training. Again, the resulting differences in readiness and other insights would be measured.

**What are Experimentation and Observation Methods?**

- The researcher controls variables and evaluates the resulting relationships.
- For example, if there are two groups being measured, one may be subjected to a treatment, and one is not given the same treatment.

(kamil_stepinski, 2013)
Experimental Research

- Two types
  - **Field experiments**—conducted in the subject’s natural environment using controlled situations
  - **Lab experiments**—conducted in an artificial setting (Lee & Lings, 2008)
- Limitations
  - Higher costs
  - Security issues

There are several different types of experiments typically conducted to include the following:

*Field experiments* are research projects that are conducted in the natural environment utilizing controlled situations. This provides for experimentation to be completed in the “real” setting but is subject to uncontrollable factors affecting the experiment.

*Lab experiments* are research projects that are conducted in an artificial setting. This provides for additional control when manipulating certain variables but is conducted in a less than realistic situation (Lee & Lings, 2008).

Limitations of experimental research include the high costs relative to other methods in establishing the controlled environment and hiring the personnel to conduct the experiments. Additionally, there is the potential of security issues. While these limitations can be overcome, the need for the company and research team to understand these limitations is paramount in running an effective experimental research study.
Observational Research

- Researcher views and records the behavioral actions of people, occurrences, or objects when they are happening
- Examples of observable behaviors—expressive behavior, verbal behavior, physical movements, physiological reactions, patterns, or neurological activities
- Hidden or visible observation

Observational research takes on the approach of a researcher viewing and recording the behavioral actions of people, occurrences, or even objects at the time and place in which they are happening. The possibilities of behaviors that can be tracked are numerous.

Examples might include expressive behavior, verbal behavior, physical movements, physiological reactions, patterns, or even neurological activities. This can be either with or without the awareness of those being observed.

Hidden observation means that there is no communication with the observed factor, and they are unaware that they are being observed. Visible observation suggests that the observed factor can see the researcher or the measurement device. Both methods are used for different scenarios, depending upon the overall objectives of the research study. Observational research settings align somewhat with the experimental design settings discussed earlier. Within observational research, the participants can be observed in several settings.
The differences in environment in observational research include the following:

*Naturalistic observation* is observing behaviors in their natural setting without the participants being aware they are being observed.

*Participant observation* is observing behaviors in their natural setting with the participants understanding they are being observed.

*Laboratory observation* is observing behaviors in a controlled laboratory type of setting either with or without participants’ knowledge of being observed.
Within the scope of these environments, direct observation provides a host of advantages around the fact that data can be collected quickly and efficiently.

The obvious disadvantage would be that of bias error, which suggests that the observers report what they observed from their perspective instead of ensuring that they are reporting the actual facts. Mechanical observation can also be used. This might involve the use of video cameras, traffic counters, and other machines that can count and/or observe. While these methods do not have the complication of human error or bias, the cost of the equipment might be significant, and there is also the potential of mechanical error.
Ethnographic research is a common form of observational research being used by organizations today. This research basically studies the behavior of humans in their natural, physical setting. This requires a highly trained researcher. Researchers observe, analyze, and interpret the actions of the observed group (McDaniel & Gates, 2015).
Online tracking is another form of observation research. The tracking of people’s behavior on the Internet is used quite elaborately in the business arena.

This type of research enables researchers to understand where on the Internet the person is visiting, how often, and, in the case of consumer buying, how much they are buying. Correlating this to the demographics of the person can provide companies with valuable information with respect to identifying exactly who is interested in their product or service and to what degree.

Ethically speaking, tracking has been under fire for tracking practices being done without consumer knowledge. The idea of someone watching is a bit unnerving for most consumers. Additional concern is brought forward on the discussion of what companies are then doing with this information. Is it being sold to other companies? The possibilities are endless.
To summarize, in experimental research, researchers attempt to control variables, and then they evaluate the relationships that result. There are several forms of experimental research, and two of the most common are field experiments and lab experiments. Experimental research does have limitations, and these include the high cost as compared to other methods and possible security issues that could result.

Observational research, on the other hand, is a method during which a researcher views and records the behavioral actions of the subjects in the study. There are several types of observational research methods to include naturalistic, participant, and laboratory.

Other common forms of observational research include ethnographic research and online tracking.

The limitations of observational research are that only visibly seen factors can be tracked. Internal feelings and motivations cannot be included in this research. Much like experimental research, observational research is costly and takes a significant amount of time. Additionally, there might be some ethical concerns, particularly if the observation is being done without the permission of the person being observed.
Check your knowledge! Take the short quiz on the next few slides to review the information presented in this unit.
Quiz Instructions

- To answer the multiple-choice and true/false questions, click the circle next to your chosen answer.
- To answer the matching questions, type the letter of the chosen answer from column 2 in the box next to the choices in column 1.
- Each question can only be answered once.
- After selecting your answer, click “Submit.” To clear your answer before submitting, click “Clear.”
- To advance to the next question, click the next button on the playbar.
- At the end of the quiz, you will have the option to review your answers. If you would like to review your answers, click the “Review Quiz” button. When reviewing the quiz results, click the next button to navigate through the review.
- If you do not want to review the quiz, click the “Continue” button to advance to the next slide.

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Click the play or next button on the playbar to start the quiz.
Which of the following is an example of experimental research in a customer service department?

- A) A new policy is enacted for all employees.
- B) One group of employees is trained on a new method to answer the phone, and one group is not.
- C) A senior staff member trains the department on a new policy.
- D) New hours for the department are tested.
What is the difference in field experimentation and lab experimentation?

- A) In lab experiments, the researcher sits in the room with the subjects, and in field experiments, the researcher does not.
- B) In field experiments, the project is conducted in an artificial setting, and in lab experiments, the project is conducted in a natural setting.
- C) In lab experiments, the project is conducted in an artificial setting, and in field experiments, the project is conducted in a natural setting.
- D) There is no difference between these two types of experiments.

What is the difference in field experimentation and lab experimentation?
Match the observational design setting with the correct description.

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
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<tbody>
<tr>
<td>B. Naturalistic observation</td>
<td>A. The behavior is observed in the participant’s natural setting, and the participant knows he or she is being observed.</td>
</tr>
<tr>
<td>A. Participant observation</td>
<td>B. The behavior is observed in the participant’s natural setting, and the participant does not know he or she is being observed.</td>
</tr>
<tr>
<td>C. Laboratory observation</td>
<td>C. The behavior is observed in a controlled setting, and the participant may or may not know he or she is being observed.</td>
</tr>
</tbody>
</table>
What is ethnographic research?

- A) The tracking of a person's online behavior
- B) The study of a person's spending habits
- C) The recording of a person's responses to a survey
- D) The study of a person's behavior in his or her natural setting
Limitations of observational research include that only visible factors can be tracked and it can be costly.

- A) True
- B) False

True or False: Limitations of observational research include that only visible factors can be tracked and it can be costly.
<table>
<thead>
<tr>
<th>Quiz</th>
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<tbody>
<tr>
<td><strong>Your Score</strong></td>
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<td><strong>Max Score</strong></td>
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<td><strong>Number of Quiz Attempts</strong></td>
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Click “Review Quiz” to review the results of this quiz. Click “Continue” to advance to the next slide.
To learn more about observations and experiments, click the link below to access an interactive tutorial on the subject.
http://www.pearsoncustom.com/mct-enterprise/asset.php?isbn=1256689785&id=16842

To learn more about observations and experiments, click this link for an interactive tutorial. Click play or the next button on the playbar to advance to the next screen once you have reviewed this resource.
These references were used in the creation of this lesson.

References


You have completed this lesson!

To exit the lesson, close the browser window.

You have completed the Unit V Lesson. To exit this lesson, simply close your browser window. Or, if you would like to review any slides, click on the thumbnail of the slide you would like to view in the navigation menu to the right side of the presentation.