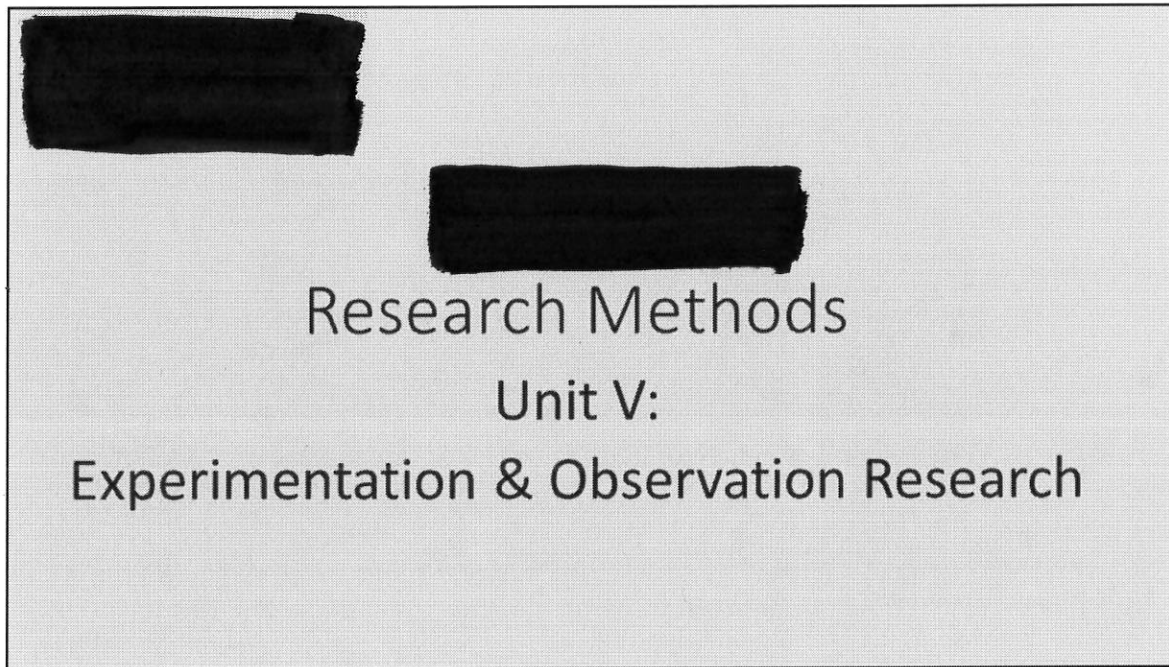




Unit V: Experimentation & Observation Research

Outcomes

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

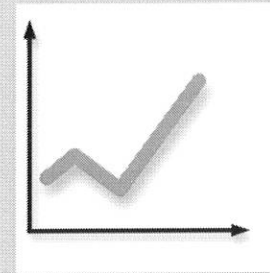
- Appraise experimentation and observation research methods.

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

Appraise experimentation and observation research methods.

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.



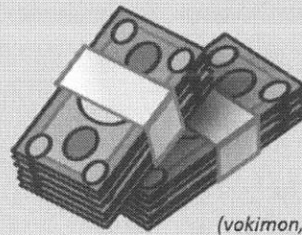
(kamil_stepinski, 2013)

Experimental research 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.

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



(vokimon, 2012)

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.

Observational Research Environments

Naturalistic Observation

Observing behaviors in natural settings without participant awareness

Participant Observation

Observing behaviors in natural settings with participants understanding they are being observed

Laboratory Observation

Observing behaviors in a controlled setting either with or without participants' knowledge

The differences in environment in observational research include the following:

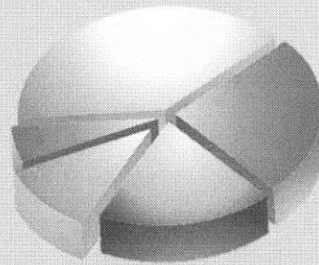
Naturalistic observation is observing behaviors in their natural setting without the participants being aware they are being observed.

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.

Advantages and Disadvantages of Observational Research

- Advantage
 - Data collected quickly and efficiently
- Disadvantages
 - Bias error
 - If mechanical observation, potential for significant cost and mechanical error



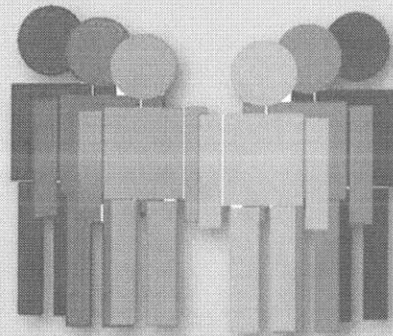
(emilie.rollandin, 2010)

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

- Studies human behavior in the subject's natural, physical setting
- Requires a highly trained researcher
- Researchers observe, analyze, and interpret the actions of the observed group (McDaniel & Gates, 2015)

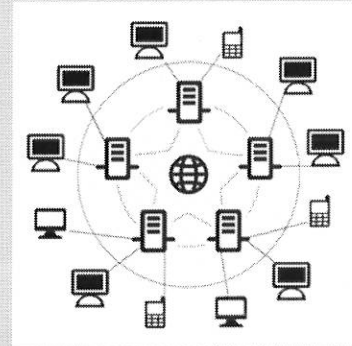


(netalloy, 2011)

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 who has the ability to systematically and effectively read respondents. These researchers are able to observe, analyze, and interpret the actions of the observed group (McDaniel & Gates, 2015).

Online Tracking

- Used in the business arena
- Enables researchers to understand Internet behavior
- Provides a business with information about who is buying their product/service and to what degree
- Under fire for ethical reasons



(daccap, 2011)

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.

Conclusion

- Researchers control variables and evaluate resulting relationships.
- There are several types of experimental research.
- Observational research occurs when the behaviors or actions are observed by a researcher.
- Observation can occur in a naturalistic, participant, or laboratory observation situation.
- There are limitations to these methods.
- There may also be ethical concerns.

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.