

University of Mumbai



M.Sc in Information Technology
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PSIT101 & PSIT1P1 - Research in Computing

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UNIT III - RESEARCH METHODS AND DATA COLLECTION

BASED ON WILLIAM G. ZIKMUND

Chapter 11:

Observation Methods

The systematic process of recording the behavioral patterns of people, objects, and occurrences as they are witnessed

Observation becomes a tool for scientific inquiry when it meets several conditions:

- The observation serves a formulated research purpose.
- The observation is planned systematically.
- The observation is recorded systematically and related to general propositions, rather than simply reflecting a set of interesting curiosities.
- The observation is subjected to checks or controls on validity and reliability

What Can be Observed?

Phenomenon

Example

Physical action

A worker's movement during an assembly process

Verbal behavior

Statements made by airline travelers while waiting in line

Expressive behavior

Facial expressions, tones of voices, and forms of body language

Spatial relations and locations

Proximity of middle managers' offices to the president's office

Temporal patterns

Length of time it takes to execute a stock purchase order

Physical objects

Percent of recycled materials compared to trash

Verbal and pictorial records

Number of illustrations appearing in a training booklet

The Nature of Observation Studies

VISIBLE OBSERVATION

- Observation in which the observer's presence is known to the subject.

HIDDEN OBSERVATION







- Observation in which the subject is unaware that observation is taking place

Observation of Human Behavior

Whereas surveys emphasize verbal responses, observation studies emphasize and allow for the systematic recording of nonverbal behavior.

- How long does the child's attention stay with the product?
- How exactly does the child play with the toy?
- Are the child's peers equally interested in the toy?

Observing and Interpreting Nonverbal Communication

Behavior	Description	Example
Facial expressions	 <p>Expressions of emotion such as surprise (eyes wide open, mouth rounded and slightly open, brow furrowed)</p>	A consumer reacts to the price quoted by a salesperson.
Body language	 <p>Posture, placement of arms and legs</p>	A consumer crosses arms as salesperson speaks, possibly indicating a lack of trust.
Eye activity	 <p>Eye contact, staring, looking away, dilated pupils. In U.S. culture, not making eye contact is indicative of a deteriorating relationship. Dilated pupils can indicate emotion or degree of honesty.</p>	A consumer avoids making eye contact with a salesperson knowing that he or she will not make a purchase.
Personal space	 <p>Physical distance between individuals; in the United States, people like to be about eight feet apart to have a discussion.</p>	A consumer may back away from a salesperson who is viewed to be violating one's personal space.
Gestures	 <p>Responses to certain events with specific body reactions or gestures</p>	A consumer who wins something (maybe at the casino or a sports contest) lifts arms, stands tall, and sticks out chest.
Manners	 <p>Accepted protocol for given situations</p>	A salesperson may shake a customer's hand, but should not touch a customer otherwise.

Direct Observation

A straightforward attempt to observe and record what naturally occurs; the investigator does not create an artificial situation.

The amount of time it takes to make a choice between two alternatives; used as a measure of the strength of preference – response latency

ERRORS ASSOCIATED WITH DIRECT OBSERVATION

- Observer Bias: A distortion of measurement resulting from the cognitive behavior or actions of a witnessing observer

SCIENTIFICALLY CONTRIVED OBSERVATION

- Observation in which the investigator creates an artificial environment in order to test a hypothesis

Ethical Issues

- Is the behavior being observed commonly performed in public where it is expected that others can observe the behavior?
- Is the behavior performed in a setting in which the anonymity—meaning there is no way to identify individuals—of the person being observed is assured?
- Has the person agreed to be observed?

Observation of Physical Objects

Content Analysis

Mechanical Observation

- Television monitoring : Computerized mechanical observation used to obtain television ratings.
- Monitoring Web Site Traffic
 - click-through rate : Proportion of people who are exposed to an Internet ad who actually click on its hyperlink to enter the Web site; click-through rates are generally very low

Scanner-Based Research

A type of consumer panel in which participants' purchasing habits are recorded with a laser scanner rather than a purchase diary

Measuring Physiological Reactions

- A mechanical device used to observe eye movements; some eye monitors use infrared light beams to measure unconscious eye movements.
- Pupilometer : A mechanical device used to observe and record changes in the diameter of a subject's pupils
- Psychogalvanometer : A device that measures galvanic skin response, a measure of involuntary changes in the electrical resistance of the skin.
- voice-pitch analysis : A physiological measurement technique that records abnormal frequencies in the voice that are supposed to reflect emotional reactions to various stimuli.