Descriptive Research Design: Survey and Observation

Week 03

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Descriptive Research Design

**Survey Method**

A *Structured questionnaire* given to a sample of a population and designed to elicit specific information from respondents.

**Observation Method**

The *Recording of behavioral patterns* of people, objects, and events in a systematic manner to obtain information about the phenomenon of interest.
A Classification of Survey Methods

Survey Methods

- Telephone
  - In Home
    - Traditional
  - Mall Intercept
    - CATI
- Personal
- Mail
  - CAPI
  - Mail Interview
  - Mail Panel
- Electronic
  - E-mail
  - Internet
Some Decisions Related to the Mail Interview Package

- Outgoing Envelope
- Cover Letter
- Questionnaire
- Incentives
- Return Envelope

Mail Package
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Phone/CATI</th>
<th>In-home Interviews</th>
<th>Mail Intercept</th>
<th>CAPI</th>
<th>Mail Surveys</th>
<th>Mail Panels</th>
<th>E-mail</th>
<th>Internet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility of data collection</td>
<td>M – H</td>
<td>H</td>
<td>H</td>
<td>M – H</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>M – H</td>
</tr>
<tr>
<td>Diversity of questions</td>
<td>L</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M – H</td>
</tr>
<tr>
<td>Use of physical stimuli</td>
<td>L</td>
<td>M - H</td>
<td>H</td>
<td>H</td>
<td>M</td>
<td>M</td>
<td>L</td>
<td>M</td>
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<tr>
<td>Sample control</td>
<td>M – H</td>
<td>H</td>
<td>M</td>
<td>M</td>
<td>L</td>
<td>M – H</td>
<td>L</td>
<td>L – M</td>
</tr>
<tr>
<td>Control of data collection environment</td>
<td>M</td>
<td>M – H</td>
<td>H</td>
<td>H</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>Control of field force</td>
<td>M</td>
<td>L</td>
<td>M</td>
<td>M</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>H</td>
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<tr>
<td>Quantity of data</td>
<td>L</td>
<td>H</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>H</td>
<td>M</td>
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<td>Response rate</td>
<td>M</td>
<td>H</td>
<td>H</td>
<td>H</td>
<td>L</td>
<td>M</td>
<td>L</td>
<td>VL</td>
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<tr>
<td>Perceived anonymity of the respondent</td>
<td>M</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>H</td>
<td>H</td>
<td>M</td>
<td>H</td>
</tr>
<tr>
<td>Social desirability</td>
<td>M</td>
<td>H</td>
<td>H</td>
<td>M – H</td>
<td>L</td>
<td>L</td>
<td>M</td>
<td>L</td>
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<tr>
<td>Obtaining sensitive information</td>
<td>H</td>
<td>L</td>
<td>L</td>
<td>L – M</td>
<td>H</td>
<td>M – H</td>
<td>M</td>
<td>H</td>
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<tr>
<td>Potential for interviewer bias</td>
<td>M</td>
<td>H</td>
<td>H</td>
<td>L</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Speed</td>
<td>H</td>
<td>M</td>
<td>M – H</td>
<td>M – H</td>
<td>L</td>
<td>L – M</td>
<td>H</td>
<td>VH</td>
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<tr>
<td>Cost</td>
<td>M</td>
<td>H</td>
<td>M – H</td>
<td>M – H</td>
<td>L</td>
<td>L – M</td>
<td>L</td>
<td>L</td>
</tr>
</tbody>
</table>
The researcher specifies in detail what is to be observed and how the measurements are to be recorded, e.g., an auditor performing inventory analysis in a store.

The observer monitors all aspects of the phenomenon that seem relevant to the problem at hand, e.g., Observing children playing with new toys.

The respondents are unaware that they are being observed. Disguise may be accomplished by using one-way mirrors, hidden cameras, or inconspicuous mechanical devices.

The respondents are aware that they are under observation.

Involves observing behavior as it takes places in the environment. For example, one could observe the behavior of respondents eating fast food in burger king.

The Behavior is observed in an artificial environment.
A Classification of Observation Methods

Observation Methods

- Personal Observation
- Mechanical Observation
- Audit
- Content Analysis
- Trace Analysis
A researcher observes actual behavior as it occurs.
The observer does not attempt to manipulate the phenomenon being observed but merely records what takes place.
For example, a researcher might record traffic counts and observe traffic flows in a department store.
A Classification of Observation Methods

Do not require respondents' direct participation.
The AC Nielsen audimeter, On-site cameras (still, motion picture, or video), Optical scanners in supermarkets

Do require respondent involvement.
Eye-tracking monitors, Pupilometers, Psychogalvanometers, Voice pitch analyzers, Devices measuring response latency
The researcher collects data by examining physical records or performing inventory analysis.

Data are collected personally by the researcher.

The data are based upon counts, usually of physical objects.

For example, researcher takes an inventory of brands, quantities, and packaging sizes in consumer’s home (pantry audit).
A Classification of Observation Methods

- **Personal Observation**
- **Mechanical Observation**
- **Audit**
- **Content Analysis**
- **Trace Analysis**

The objective, systematic, and quantitative description of the manifest content of a communication.

The unit of analysis may be words, characters (individuals or objects), themes (propositions), space and time measures (length or duration of the message), or topics (subject of the message).

Analytical categories for classifying the units are developed and the communication is broken down according to prescribed rules.
Data collection is based on physical traces, or evidence, of past behavior.

- The number of different fingerprints on a page was used to gauge the readership of various advertisements in a magazine.
- The position of the radio dials in cars brought in for service was used to estimate share of listening audience of various radio stations.
- Internet visitors leave traces which can be analyzed to examine browsing and usage behavior by using cookies.
# A Comparative Evaluation of Observation Methods

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Personal Observation</th>
<th>Mechanical Observation</th>
<th>Audit Analysis</th>
<th>Content Analysis</th>
<th>Trace Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of structure</td>
<td>Low</td>
<td>Low to high</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Degree of disguise</td>
<td>Medium</td>
<td>Low to high</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Ability to observe in natural setting</td>
<td>High</td>
<td>Low to high</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Observation bias</td>
<td>High</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Analysis Bias</td>
<td>High</td>
<td>Low to high</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>General remarks</td>
<td>Most flexible</td>
<td>Can be intrusive</td>
<td>Expensive</td>
<td>Limited to</td>
<td>Method of last resort</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>communications</td>
<td></td>
</tr>
</tbody>
</table>

- **Degree of structure**: Low - High
- **Degree of disguise**: Medium - High
- **Ability to observe in natural setting**: Low to high
- **Observation bias**: High
- **Analysis Bias**: Low to high; Low; Medium
- **General remarks**: Most flexible; Can be intrusive; Expensive; Limited to communications; Method of last resort
Relative Advantages of Observation

- They permit measurement of **actual behavior** rather than reports of intended or preferred behavior.

- There is **no reporting bias**, and potential bias caused by the interviewer and the interviewing process is eliminated or reduced.

- **Certain types of data** can be collected only by observation.

- If the observed phenomenon **occurs frequently** or is of **short duration**, observational methods may be cheaper and faster than survey methods.
The reasons for the observed behavior may not be determined since little is known about the underlying motives, beliefs, attitudes, and preferences.

Selective perception (bias in the researcher's perception) can bias the data.

Observational data are often time-consuming and expensive, and it is difficult to observe certain forms of behavior.

In some cases, the use of observational methods may be unethical, as in observing people without their knowledge or consent.

It is best to view observation as a complement to survey methods, rather than as being in competition with them.
THANK YOU