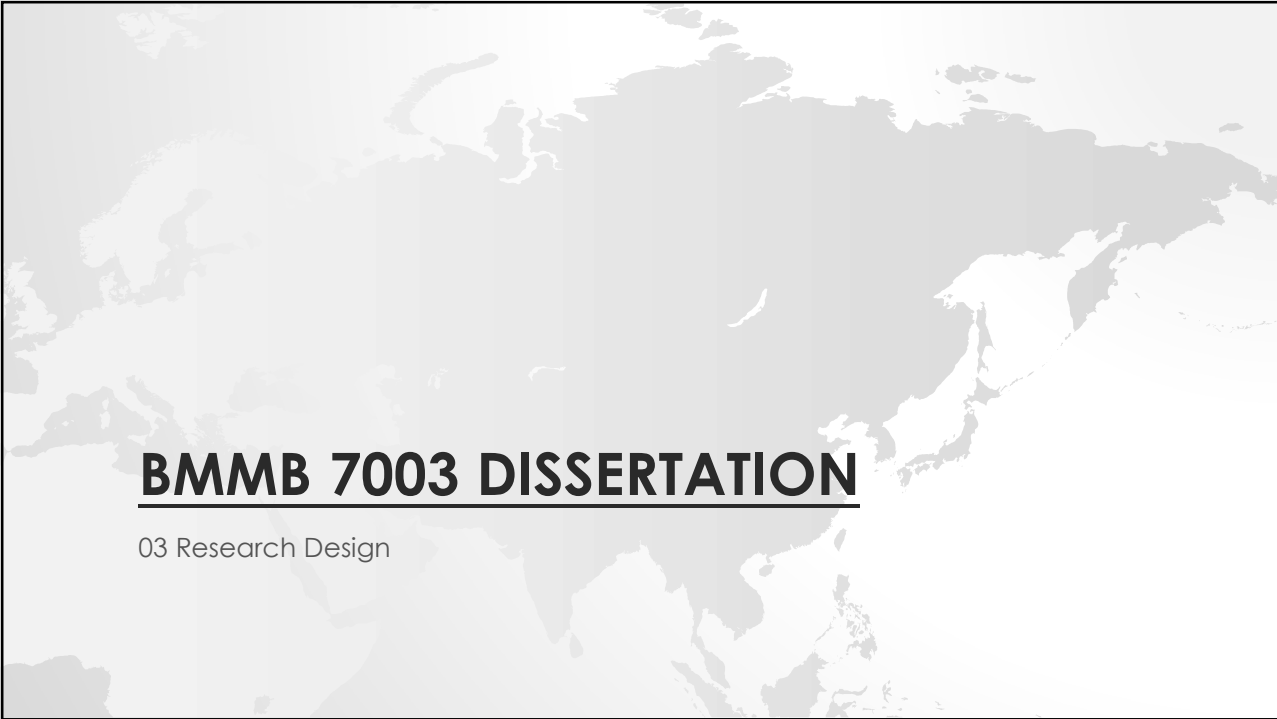




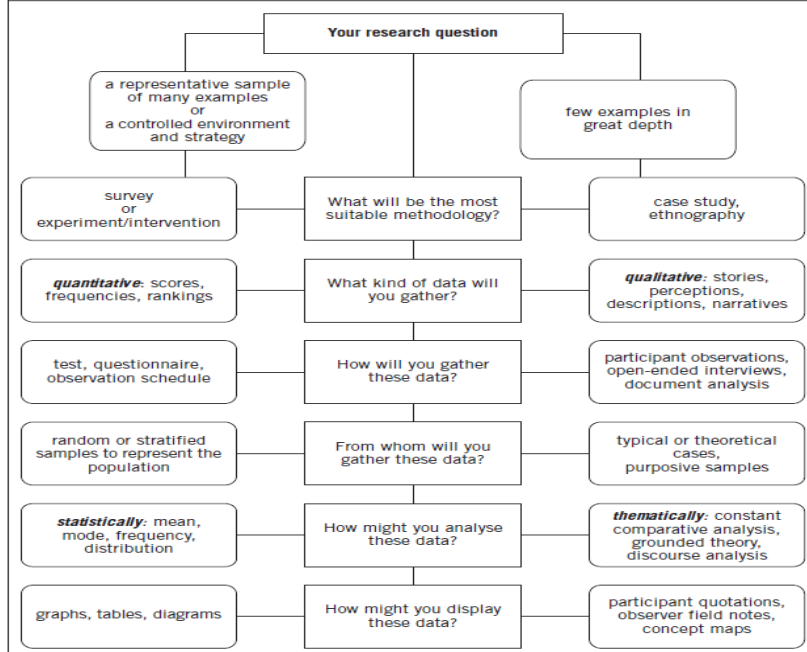
BMMB 7003 DISSERTATION

03 Research Design

TOPICS

- Research design and objective
- Major research designs
 - Experimental research
 - Survey research
 - Case study research
 - Comparative research
 - Observational research
 - Action research

Figure 2.5 Research questions and selected answers



RESEARCH DESIGN

- Research design is the master plan specifying the **methods and procedures** for collecting and analyzing the required information
- It determines **how the participants are selected, how variables are manipulated, data are collected and analysed, and how confounding variables are controlled** so that the overall research problem can be addressed

RESEARCH DESIGN AND OBJECTIVE

RESEARCH OBJECTIVES

- Descriptive: To describe and measure any phenomena at a point in time
- Exploratory: To gain background information, to define terms, to clarify problems and develop hypotheses, to establish research priorities, to develop questions to be answered
- Explanatory: To determine the accuracy of a theory
- Causal: To determine causality, test hypotheses, to make "if-then" statements, to answer questions

COMMON RESEARCH DESIGN

- Survey; case study
- Survey; case study
- Experiment; survey; case study
- Experiment

CHOOSING A RESEARCH DESIGN

- Best addresses the problem
- Ethics
- Cost in time and money
- Validity

EXPERIMENTAL RESEARCH

- Experimental research examines the cause-and-effect relationships between variables.
- The method involves manipulating one variable to determine if changes in one variable cause changes in another variable.
- The influence of all potential confounding variables are eliminated. This is to ensure that the results obtained are a direct result of the effects of the intervention.
- The method relies on **controlled methods, random assignment and the manipulation of variables** to test a relationship.
- Quasi-experimental research involves selecting groups, upon which a variable is tested, without any random pre-selection processes.

EXPERIMENTAL RESEARCH

- Field experiments are done in a **natural setting**, whereas laboratory experiments are undertaken in a **simulated setting**.
- Proves the direct cause-and effect relationship between two variable.
- Advantages: can establish cause and effect relationships; adjustability/flexibility
- Disadvantages: lack of "reality"; unrepresentative samples

HAWTHORNE STUDIES

- A series of experiments were conducted in 1930's at the Western Electric in Hawthorne, Illinois.
- One of the experiments aimed to examine the effects of lighting on productivity
- Result: Productivity increased regardless of lighting level
- Conclusion: Increased productivity was due to workers' receiving attention and the presence of a social system in the workplace
- Hawthorne effect: A kind of reactivity that occurs when subjects demonstrate the expected effect of the treatment not because of its actual influence, but because they try to behave the way they think the researcher is looking for.

SURVEY RESEARCH

- Survey research studies samples drawn from populations and from these samples it infers the characteristics of the defined population or universe.
- Sample surveys attempt to determine the incidence, distribution, and interrelations among sociological and psychological variables, and in so doing, usually focus on people, the vital facts of people, and their beliefs, opinions, and attitudes.

SURVEY RESEARCH

ADVANTAGES

- Less expensive
- Collected and processed quickly
- Uniformity in questioning and response sets
- Objective epistemological position (neutral or unbiased position)
- Wider geographical distribution

DISADVANTAGES

- Closed response sets restricts choice
- In-depth data not collected
- Passive activity
- May generate expectations among the participants
- Intrusive form of data collection
- Lack of reciprocity

TYPES OF SURVEYS

- Surveys can be undertaken through oral or written questioning.
 - Oral questioning is known as interviewing
 - Written questioning is accomplished through questionnaires
- Four types of surveys
 - Mail surveys
 - Telephone surveys
 - Self-completion surveys
 - Interviewer-completed questionnaires

MAIL SURVEYS

- Mail surveys use questionnaire to collect data.
- The questionnaires are mailed to respondents, who then fill in the answers and return the questionnaires to the researcher.

ADVANTAGES OF MAIL SURVEYS

- The cheapest method
- Can target dispersed geographical areas
- Are completed at the respondents' convenience
- Can offer anonymity when codes are not used; if codes are used, confidentiality assurances would have to be offered
- Remove interviewer bias
- Can achieve response rates from well-educated respondents or when there is high interest in the research topic.

DISADVANTAGES OF MAIL SURVEYS

- Mailing lists are difficult to obtain
- Lack of face-to-face contact
- Not always fully completed and returned
- Return of surveys can take some time
- To increase response rates, reminder cards are used, which adds to the cost and increase the time.
- Respondents are unable to seek clarification
- The researcher is unable to make observation notes
- The researcher has no way of knowing the literacy level of respondents
- The length of questionnaires restricts the use of visual aids
- Open-ended questions do not achieve lengthy written responses

TELEPHONE SURVEYS

- Structured interviews using closed questions, with an interviewer recording the respondents' answers
- Contact with respondents is made using telephone technology

ADVANTAGES OF TELEPHONE SURVEYS

- Enable personal contact to be made with respondents and sample may be drawn from a range of geographical regions for a lesser cost than face-to face interviews
- It is faster than mail or intercept surveys
- The interviewer is in charge of the question order
- Probes can be used to elicit further information
- Can ensure that only one respondent answers the questions.

DISADVANTAGES OF TELEPHONE SURVEYS

- It can be more expensive than mail surveys.
- There are limited interview times pertaining to the best times for making and gaining responses.
- It cannot use visual aids
- Open-ended questions are limited
- The interviewer can not control the interview.

SELF-COMPLETION SURVEYS

- It is completed by the respondent.
- The self-completion surveys may be distributed to possible respondents or left in a prominent position for completion.

SELF-COMPLETION SURVEYS

ADVANTAGES

- The participant can complete the questionnaire at their own pace
- If left with the respondents, the questionnaire can be completed at a time convenient to the respondents

DISADVANTAGES

- The researcher can never be sure that the targeted person has responded to the questionnaire, unless the researcher has personally handed the questionnaire to the respondent and waited for its completion
- The respondents can not seek clarification
- The respondents may not understand the language
- Lower response rate

INTERVIEWER-COMPLETED SURVEYS

- A face to face interview
- It engages the respondent in answering questions posed orally by the interviews
- The respondents does not have to write anything down, which is completed by the interviewer.

INTERVIEWER-COMPLETED SURVEYS - ADVANTAGES

- There is no need to write anything down, so it is less intrusive than a mail or self-completion survey
- Show cards and visual images can be used
- Face-to face interaction can contribute to increased participation
- It achieves a higher response rate than mail or telephone surveys
- Clarification may be sought by the respondent
- Probes may be used by the interviewer to extend responses.
- Both open-ended and closed questions may be asked
- No follow-up collection

INTERVIEWER-COMPLETED SURVEYS - DISADVANTAGES

- The costs for training, supervising, and transporting are very high
- The presence of an interviewer can introduce interviewer bias based on the interviewer's appearance, mannerisms, tone of voice or language used
- Respondents may query anonymity or confidentiality claims
- Respondents may not find the interception by the interviewer convenient

ONLINE SURVEYS

ADVANTAGES

- Respondents enter the data directly
- The cost of conduct is minimal
- Faster than mail, telephone or intercept surveys
- Real-time responses

DISADVANTAGES

- Not knowing who completed the surveys
- Some e-lists are not reliable
- Difficulties in gaining access to some e-lists

CASE STUDY RESEARCH

- Case study is an in-depth analysis of a single case or a small number of cases
- A large number of aspects of a single case (individual, organization or team) was investigated in depth over a long period within the case's own context.
- It involves collecting in depth, descriptive data which is then interpreted, analysed and evaluated.
- The method is particularly appropriate when little is known about a topic
- Multiple sources of data
- Triangulation (the use of two or more methods of data collection or sources of data in the study of some aspect of human behaviour)

CASE STUDY RESEARCH

- According to Robert Yin (1994), a case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context
- "The case study method allows investigators to retain the holistic and meaningful characteristics of real-life events – such as individual life cycles, small group behaviour, organizational and managerial processes, neighbourhood change, school performance, international relations, and the maturation of industries". (Yin, 2009)

CASE STUDY RESEARCH

Type of case study	Description
Exploratory (Yin, 1994)	The study 'explores' single or multiple cases of the tourism phenomenon to discover uniqueness or characteristics, since no pre-existing data exist in the public arena. The 'what' is determined.
Descriptive (Yin, 1994)	The study collects evidence to enable the researcher to describe either a single case or multiple cases. The 'who', 'what' and 'where' are determined
Explanatory (Yin, 1994)	The study seeks to determine 'how and why' the single case or multiple cases operate as they do.

CASE STUDY RESEARCH

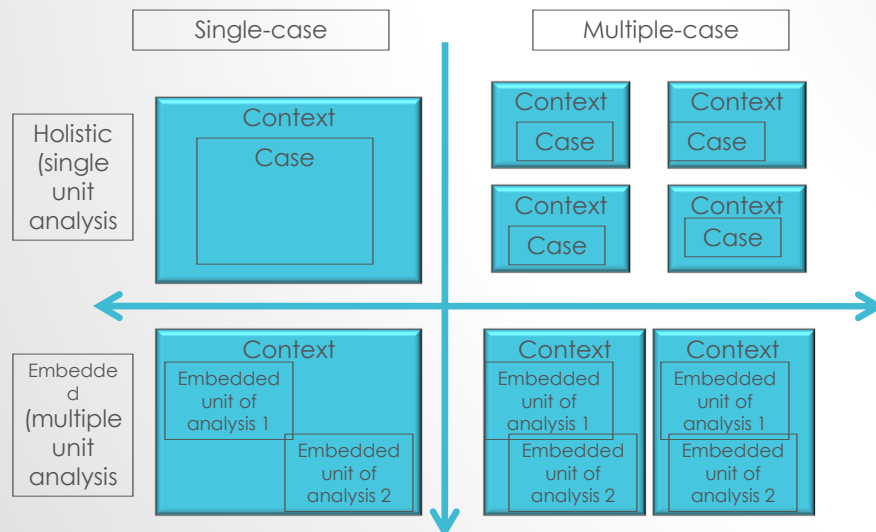
ADVANTAGES

- In-depth data is collected on a single case or multiple cases
- Evidence is grounded in the social setting being studied
- Study members can check the data for accuracy
- Member checking may remove researcher bias
- Methodological triangulation is used

DISADVANTAGES

- The case study focus is emergent.
- The research process is subjective as opposed to objective.
- Evidence may be denied for reproduction based on the use of member checking.
- Data collection, analysis and findings may contain bias.
- Findings are not able to be generalized to other cases.

SINGLE- VERSUS MULTIPLE-CASE DESIGN



SINGLE- VERSUS MULTIPLE-CASE DESIGN

RATIONALES FOR SINGLE CASE STUDY

- The case selected is a/an
- critical case
 - extreme/unique case
 - typical/representative case
 - revelatory case (phenomenon previously inaccessible)
 - longitudinal case

RATIONALES FOR MULTIPLE CASE STUDY

- Provides intra- and inter-case comparisons
- Predicts similar results (literal replication); cases are designed to corroborate each other
- Predicts contrasting results (theoretical replication); cases are designed to cover different theoretical conditions and different results are expected.

COMPARATIVE RESEARCH

- Comparative research methods identify, analyse and explain similarities and differences between cases, contexts and time periods.
- It may be associated with other types of research designs. E.g., comparative experimental studies, comparative case studies, comparative observational studies.

OBSERVATIONAL RESEARCH

- Research involving observation of behaviour and recording of those observation in an objective manner.
- What do we observe?
 - Identify behavioural categories and behaviour to be recorded
- How do we record the observation?
 - Media: Video Recording, Tape Recording, paper-and-pencil
 - Duration, frequencies, etc.
- What sampling strategies do we use?
 - Event Sampling?
 - Individual Sampling?

PARTICIPANT OBSERVATION

- The researcher can play the following roles:
- Complete observer: the researcher is uninvolved and detached, and merely, passively records behaviour at a distance (e.g., a researcher standing in the street, making observations of tourists)
- Observer as participant: the researcher's observer role is known but he does not participate (e.g. a researcher accompanies a tour group, observing and questioning tour members' behaviour as they proceed).
- Participant as observer: the researcher becomes a member of the group being studied and tells the members that they are being studied (e.g. a researcher joins a tour group, observing and enjoying the trip).
- Complete participant: the researcher let people see them only as a participant, not as a researcher (e.g., a researcher acts as a mystery customer).

ADVANTAGES OF PARTICIPANT OBSERVATION

- Examines interactions and behaviors in real-world settings
- Enables researchers to become aware of how the participants construct and describe their world
- Provides first-hand information
- Provides information when other data collection methods are less effective
 - routes taken around museum exhibits
 - length of time spent at interpretive signs in a national park

CONTINUED...

- May highlight behaviors/events that the participants may not wish to discuss
- Time-efficient
- Is not associated with complicated data collection methods
- Cost-effective, as several methods are simultaneously used
- Enables a wide range of data to be collected, as the researcher is in the study setting for an extended time period.

DISADVANTAGES OF PARTICIPANT OBSERVATION

- Does not work well with large groups, as the observer can only be in one location or one setting at one time
- Does not have a temporal comparability, as it is focused on the present; past or future settings are unable to be observed
- Is not appropriate for opinions and attitudes unless coupled with interviewing, as the researcher cannot observe attitudes and opinions
- May not gather complete information sets, as some events may be taboo for observation
- May be associated with observer bias, selective observations and interpretations

CONTINUED...

- Has no controls for researcher bias
- Does not provide quantifiable generalizations on results
- May result in misinterpretation of interactions or phenomena if analyses are not revalidated by the participants
- May cause changes in behaviors due to the participant observer's presence
- May result in difficulty in comparability if several observers are in the field
- Replication is impossible, because once the act has occurred, it is over
- Is associated with subjective interpretations by observers

ACTION RESEARCH

- Action research aims at an understanding of a complex situation rather than prescribing a universal social law.
- Unlike academic researchers who remain "neutral", action researchers attempt to intervene the problem setting. Their goal is to foster improvement via a defined research framework.
- Action research assists in organizational change. It empowers stakeholders (e.g., employees, residents, etc.) to contribute to the research and decision making process.
- It involves planning, implementing, monitoring and reflecting.

ACTION RESEARCH - EXAMPLE

- Abstract: "Ecologically sound tourism planning and policy require an empowering community participation. The participatory action research model **helps a community gain understanding of its social reality, learn how to learn, initiate dialog, and discover new possibilities for addressing its situation.**"
- Guevara, J., & Roberto, Q. (1996). Learning through Participatory Action Research for Community Ecotourism Planning, *Convergence*, 29(3), 24-40.

ADVANTAGES AND DISADVANTAGES

Advantages:

- It is participatory in nature (e.g., residents representatives are encouraged to undertake research projects that address the needs of the community)
- Process and outcomes are owned by the participants
- It aims to empower participants to lead their own community/unit rather than being directed by professionals.
- It focuses on improving organizational practices, conditions and processes.

Disadvantages:

- The outcomes being site or organization specific
- Time-consuming
- Self-fulfilling prophecy (when we expect something to happen, it is more likely to happen).