Outline

• Proposal Writing
• Qualitative vs. Quantitative Research
• Qualitative Research – Strengths & weaknesses
• Forms of Qualitative Research
• Mixed Methods Research
• Data Collection Methods
• Data Collection Tool – Questionnaire
• Sampling Designs
Proposal Writing

Introduction:
- Should concisely cover;
  (a) Background of the study
  (b) Research Problem
  (c) Research objectives
  (d) Scope and Justification of the research
Proposal Writing...

**Background of the Study:**

The background of the study should;

1. Show understanding and **genesis** of the **problem**/put the reader in proper context of the problem

2. Reveal **current information** surrounding the issue, **previous studies** on the issue, and **relevant history** on the issue

3. Justifies and convinces the reader that the study is needed –”**Sales pitch”**

4. Be factual-/statements, opinions and points of view should be documented and sources **cited**

5. Provide a **logical lead-in** to a **clear** and **concise** statement of the problem
Proposal Writing...

**Statement of the Problem**

This is a claim that outlines the problem addressed by a study

-A persuasive statement of problem is usually written in 3 parts

1. **The ideal:** What is the goal/ideal situation? How things ought to be
2. **The reality:** How does the current situation falls short of the goal or ideal?
3. **The consequences:** Identifies the way you propose to improve the current situation and move it closer to the goal or ideal. This is the research focus.
Proposal Writing...

**Research objectives**

- Research objectives should be closely related to the statement of the problem.
- Summarize what you hope will be achieved by the study.
- Objectives should be stated using *action verbs* that are specific enough to be measured, for example: to *compare*, to *calculate*, to *assess*, to *determine*, to *verify*, to *calculate*, to *describe*, to *explain* etc.
- Avoid the use of vague *non-active verbs* such as: to *appreciate*, to *understand*, to *believe*, to *study*, etc. because it is difficult to evaluate whether they have been achieved.
- Should be SMART-Specific, Measurable, Achievable, Realistic and Time bound.
Proposal Writing...

**Scope of the Study**
It should cite the focus of the study geographical area or target group population/sample

**Justification of the Study**
Should illustrate why the researcher is conducting the research and whom it shall benefit
**Proposal Writing...**

**Literature Review**

The key goals in literature review are:

1. **Establishing the theoretical background** - show single or multiple theories relevant to your study. What theories already exist, the relationships between them and to what degree the existing theories have been investigated.

2. **Identify gaps** - What are the missing points in the current knowledge on a subject. What is currently known on a subject that has taken a wrong path?

3. **Defining concepts** - Key concepts used in the paper arguments must be clearly defined based on previous work.
Proposal Writing...

**Characteristics of a good literature review:**

1. **Coverage**—Not many citations but identifying and presenting relevant literature, the **main research strands**, and building a framework where the paper can be positioned.

2. **Synthesis**—Not just a long list of citations, it should summarize and connect **relevant** references. The synthesis can be presented in the form of **questions** or **propositions** that have to be either verified or answered by fieldwork.

3. **Communicate**; Clear, consistent ideas and no supported assertions.

4. **Significance**; How does the paper argument relates to a major issue or debate on the topic.
Proposal Writing...

**Research Methodology**

• The most important thing here is a **research design** - This is a plan/strategy that specifies the methods and procedure for collection, measurement and analyzing data.

• There are two main approaches in research: **qualitative** and **quantitative**

• **Qualitative Research** - describe events, persons and so forth scientifically without the use of numerical data

• **Quantitative research** - consists of those studies in which the data concerned can be analyzed in terms of numbers
# Qualitative vs. Quantitative Research

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aim</strong></td>
<td>To understand &amp; interpret social interactions</td>
<td>To test hypotheses, look at cause &amp; effect, &amp; make predictions</td>
</tr>
<tr>
<td><strong>Sample Studied</strong></td>
<td>Smaller &amp; not scientifically selected</td>
<td>Larger &amp; scientifically selected</td>
</tr>
<tr>
<td><strong>Data Collected</strong></td>
<td>Words, images, or objects</td>
<td>Numbers and statistics</td>
</tr>
<tr>
<td><strong>Data Collection</strong></td>
<td>Qualitative data such as open-ended responses, participant observations and field notes</td>
<td>Quantitative data based on precise measurements using structured data-collection instruments</td>
</tr>
<tr>
<td><strong>Data Analysis</strong></td>
<td>Identify patterns, features, themes</td>
<td>Identify statistical relationships- causality/association</td>
</tr>
<tr>
<td><strong>Objectivity/Subjectivity</strong></td>
<td>Subjectivity is expected</td>
<td>Objectivity is critical/reproducible results</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Particular or specialized findings that is less generalizable</td>
<td>Generalizable findings that can be applied to other populations</td>
</tr>
<tr>
<td><strong>Scientific Method</strong></td>
<td>Exploratory or bottom-up: the researcher generates a new hypothesis and theory from the data collected</td>
<td>Confirmatory or top-down: the researcher tests the hypothesis and theory with the data</td>
</tr>
<tr>
<td><strong>Nature of Observation</strong></td>
<td>Study behavior in a natural environment</td>
<td>Study behavior under controlled conditions; isolate causal effects</td>
</tr>
<tr>
<td><strong>Final report</strong></td>
<td>Narrative report with contextual description &amp; direct quotations from research participants</td>
<td>Statistical report with summary measures &amp; statistical significance of findings</td>
</tr>
</tbody>
</table>
Qualitative Research – Strengths

1. Open ended questions evoke response that are meaningful and culturally salient to the participant; unanticipated by the researcher rich and explanatory in nature unlike closed ended/qualitative ones

2. They allow the researcher the flexibility to probe initial participant responses – that is, to ask why or how

3. Address perceptions and attitudes, motivations that are difficult to capture quantitatively; values and norms

4. Deeper analysis/ Rich in information- seeks to study multiple construction of reality that are changing

5. Can be combined with quantitative = mixed methods research approach
Qualitative Research – Weaknesses

1. Bias: Subjectivity, positionality and bias of researcher (applies in all research)

2. Resources: Time- and labor-intensive (interviews, case studies, FGDs, observations often time and revenue consuming)

3. Inference: May restrict inference due to smaller sample size and challenges of generalizing and replicability.

4. Comparison: Can limit systematic comparison if responses, or details, are highly contextual or subjective.
When to use Qualitative Research

• Qualitative methods are used to answer questions about experience, perception and opinions.

• When data may not yield to counting, measuring or hypothesis testing

• When the population cannot be identified – only a small sample is known

• When we need to gain an in-depth understanding of a problem in relation to individual views

• When study area is very new and you need to develop hypotheses for further testing and for quantitative questionnaire development.
Forms of Qualitative Research

1. Case study method
   - In-depth investigation of a single or small number of units at a point (over a period) in time
   - Unit of analysis is an individual, group or organization
   - It is often used to narrow down a very broad field of research into one or a few easily researchable examples
   - The design can provide detailed descriptions of specific and rare cases.

Strengths & weaknesses
   - Approach excels at bringing us to understanding of a complex issue on which little is known
   - The case study allows the researcher use variety types of data and combination of research methods e.g Observation, interview etc
   - Flexible approach
   - single or small number of cases offers little basis for establishing reliability or to generalize the findings to a wider population
   - Design may not facilitate assessment of cause and effect relationships

Sample paper
2. Participatory action research

- Useful when studying individuals & groups in their own socio-cultural settings and experiences
- Involves collecting data on naturally occurring behaviors in their usual contexts
- Data is collected by systematic observation and documentation of activities, statements, events and behaviors.
- Researcher can be a participant observer or a complete participant

Strengths and Weaknesses

- Quality and rich information can be obtained through observation unlike the use of structured questionnaire
- It is a flexible method especially in the case of participant observer
- However there are biased caused by Hawthorne Effect/observer effect- individuals modify an aspect of their behavior in response to their awareness of being observed
- In case of a complete observer it is impossible to probe and ask questions
- Relationship between researcher and respondents may be constrained by cultural and language barriers
- Sample paper
3. Archival Method

- Is a type of research which involves seeking out and extracting evidence from archival records
- Obtains data from Manuscripts Documents Records (including electronics) Objects, sound and audiovisual materials
- Enables a researcher to understand an historical perspective of a particular issue e.g. evolution of compliance from audit files

Strengths and weaknesses

- Very cost effective especially when using online data bases
- There are no biases due to respondents behavior change
- Can be inclusive of long periods of time, thus allowing for a broader view of trends or outcomes
- Previous research may be unreliable, or not collected to the researcher’s standard
- The researcher has no control over how the data was collected when using archived information.
- The data may prove to be incomplete or possibly fail to address certain key issues
- Sample paper
Mixed Methods Research

• Mixed research /Mixed methodology /Multiple research approaches
  Multi-strategy research/Intergrated methods/Multi-method research
  or Combined methods

• Mixed methods research is a methodology for conducting research that involves collecting, analyzing and integrating quantitative (e.g., experiments, surveys) and qualitative (e.g., focus groups, interviews) research

• This approach to research is used when this integration provides a better understanding of the research problem than either of each alone.

• Key element in this method is the possibility of triangulation, i.e., the use of several means (methods and data sources) to examine the same phenomenon.

• Triangulation allows one to identify aspects of a phenomenon more accurately by approaching it from different vantage points using different methods and techniques.
When is Mixed Methods Research Suitable?

• When one wants to validate or corroborate the results obtained from other methods—e.g. surveys, focus group discussion and Key informant interviews.

• When one needs to use one method to inform another method—in a new topic, qualitative method can be used in identifying variables for quantitative analysis.

• To elaborate, clarify, or build on findings from other methods eg. We can use qualitative study to explain a causal process.

• When developing theory-qualitative approach is used to develop a theory while we use quantitative approach to test it.

• When one wants to generalize findings from qualitative research.
Mixed Methods Research – Advantages & Disadvantages

Advantages

• Provides strengths that offset the weaknesses of both quantitative and qualitative research
• Provides a more complete and comprehensive understanding of the research problem than either
• Provides an approach for developing better, more context specific instruments—through exploration we can come up with instrument with greater construct validity
• Helps to explain findings or how causal processes work

Disadvantages

• The research design can be very complex.
• Takes much more time and resources to plan and implement this type of research.
• It may be difficult to plan and implement one method by drawing on the findings of another.
• It may be unclear how to resolve discrepancies that arise in the interpretation of the findings.
Mixed Methods Research Designs

1. **Sequential explanatory design** - This design involves the collection and analysis of quantitative data followed by the collection and analysis of qualitative data. Here, qualitative data is used to interpret or contextualize quantitative findings.

2. **Sequential exploratory design** - In this design, qualitative data collection and analysis is followed by quantitative data collection and analysis. Used to test elements of an emergent theory resulting from the qualitative research or to develop and test a new instrument e.g. from an in-depth interview, we can develop a survey tool.

3. **Concurrent triangulation** - One data collection phase but separate analysis. Findings are integrated during the interpretation phase of the study.

4. **Concurrent nested** - Only one data collection phase is used, during which a predominant method (quantitative or qualitative) nests or embeds the other less priority method (qualitative or quantitative, respectively). The purpose of the nested method is to address a different question than the dominant method. The data collected from the two methods are mixed during the analysis phase.

Sample papers
Data Collection Methods

- There are two types of data used in research:
  1. Secondary data - Data obtained from past records and is reliable for your study.
  2. Primary data - Data collected for the first time directly from the study unit.

- Data collection methods may differ for both qualitative and quantitative research approaches.

- Practically, a similar method e.g. interview can be used in collecting both qualitative and quantitative data.

- A single data collection tool can be used for both qualitative and quantitative research.
1. Observation

• Involves observation of the unit of analysis in natural or lab setting
• Most applies in: Traffic analysis, Queuing analysis or where respondents cannot respond verbally e.g kids
• Researcher is to know when to observe, what to observe and how to record data e.g. paper, camera or films
• One can be a complete participant/spy-identify hidden or participant observer-researchers identity is revealed
• Key Challenges are;
  1. For complete participant, data may not be accurate since one cannot record on the spot
  2. Reliable information may need respondents who understand the role of the researched
  3. Language and cultural biases may hinder relationship between researcher and members of study group
  4. There is a possibility of the researcher over identifying with the study group leading to biased data collection/be converted.
2. Interviews

Principles of successful interviews

1. The interviewer must present himself in a way that the responded will be comfortable; dressing, opening remarks, greetings etc
2. Interviewer must explain the importance of the research, the objectives and who is funding it.
3. Interviewer must get rid of any barrier in the interviewing process e.g. by explaining how the respondent was selected and guarantee respondent’s confidentiality in the handling of data/create rapport
4. Questions must be asked exactly as worded in the tool
5. One should probe for clear information where questions are misinterpreted

- This is a social process involving an interviewer and a respondent

Interview are classified into;

1. **Structured interviews** - all respondents are asked same questions and given same predetermined choices. Data obtained is quantitative
2. **Non structured interviews** - Ask the same questions but the questions are open ended. Data is predominantly qualitative

**Note** - **Key informant interviews** - focus on experts/leaders with a lot of information
2. Interviews...

ADVANTAGES

1. Flexibility-one and probe and clarify
2. Control of the interview-respondents cannot consult each other leading to biases
3. Once can collect additional information about the respondent that is useful in data interpretation e.g social economic characteristics
4. This method has high response rate- including the illiterates

DISADVANTAGES

1. Cost of data collection is high especially for a wide geographical area
2. In non structured interviews, there is possibility of interviewer biases especially where he gives clues, guidelines or personal views on the questions
3. Telephone Interviews

Pros and cons

1. It is very cheap and can cover a wide geographical easily
2. The response rate is very low
3. Suffers from “broken-off problem “
4. Respondents may feel unease to discuss sensitive issues over the phone
5. You may not be talking to the right respondent
6. It limits the sample to only those with phones

- This is a semi-personal method of collecting data from a respondent via the telephone
- Useful where there are no enough finds for personal interviews, unwelcoming respondents and busy respondents
- Respondents are normally sampled from a list of potential respondents
4. Mail Questionnaire

Pros and Cons

1. Cheap compared to personal interviews
2. Reduces personal biases associated with face to face interviews
3. It lacks an opportunity to probe
4. There is self selection biases which affect the quality of analysis
5. Researcher has no control over who exactly responds to the questionnaire

- The data collection tool is send to the respondents through a mail or as a link/ e.g. google forms
- Response rate in this type of data collection method is mostly determined by the sponsor of the study and the level of inducement
- The questionnaire should not be too long and follow ups should be made appropriately to increase the response rate
5. Focus Group Discussion (FGD)

Key considerations in focus group discussion

1. Carefully plan the composition of the group- consider Gender, Age & rankings
2. At most 10 questions- to avoid wear out/confusion
3. Questions should be simple since they don’t have to see them unlike in a survey
4. Avoid YES or NO questions- focus on questions that provoke discussion questions/allow different perspectives
5. Respondent personalities are key -balance between the shy and the dominant ones
6. Moderator must ensure that the setting/location of the FGD does not bias the results

- A focus group discussion involves gathering people from similar backgrounds or experiences together to discuss a specific topic of interest

- It is a form of qualitative research where questions are asked about their perceptions attitudes, beliefs, opinion or ideas.

- It generally involves group interviewing in which a small group of usually 8 to 12 people.

- FGDs should be used when you need a deeper understanding of an issue beyond the level than you can access with a survey.

- They are helpful for adding meaning and understanding to existing knowledge, or getting at the “why” and “how” of a topic.
## 5. Focus Group Discussion (FGD)...

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FGDs easily generate new ideas to aid in decision making</td>
<td>1. People hardly share sensitive information</td>
</tr>
<tr>
<td>2. Moderator can bring in dynamism to enrich information derived by</td>
<td>2. Requires experience in moderation</td>
</tr>
<tr>
<td>a focus group</td>
<td></td>
</tr>
<tr>
<td>3. Gestures and stimulated activities can provide researcher with</td>
<td>3. “others influence” bias</td>
</tr>
<tr>
<td>useful insights</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Small sample and individual heterogeneity limits generalization of</td>
</tr>
<tr>
<td></td>
<td>findings</td>
</tr>
</tbody>
</table>
Data Collection Tool - Questionnaire

• This is a tool/document which contains questions that an interviewer asks a respondent to answer

• A questionnaire must translate the objectives of a research into specific questions for research objectives to be achieved

When developing a questionnaire a researcher should consider:

1. **Content of the questions**- we have either **factual** or **Opinion** questions
   - factual questions E.g Gender, Grade, level of education etc.
   - Opinion questions/attitude questions- (ve or +ve)
2. **Structure of the Questions**—either **open ended** or **closed ended**

-Closed ended questions generate qualitative data and are easy to answer.

-Contrary, if the response category is not exhaustive enough, respondents may pick any answer causing a bias.

-Open ended questions elicit opinions of respondents and are easy to set up. They generate qualitative data.

-However, it takes time to analyze (establish themes & patterns).

-Complete freedom on response may provide irrelevant information.
3. Contingency questions - a question that is answered only if the respondent gives a particular response to a previous question. This avoids asking questions of people that do not apply to them (for example, asking men if they have ever been pregnant)

4. Filter questions - questions (typically formatted as “yes or no”) meant to help respondents avoid answering questions that do not pertain to them e.g

(a). Have you ever called our customer care number  YES ()  NO()
(b). If YES, what was the purpose of calling?  ...........................................

(a) is filter question while (b) is a contingency question
4. **Matrix questions** - The question share the same set of response categories. They are easy to answer and to analyze. However, respondents are likely to pick answers randomly.

<table>
<thead>
<tr>
<th>Please indicate your degree of agreement with the aspects listed below</th>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Statement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT always acknowledges my requests for assistance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT responds to my requests in a timely manner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Features of a Good Questionnaire

• Questionnaire should deal with important or significant topic to create interest among respondents.
• It should seek only that data which can not be obtained from other sources.
• It should be as short as possible but should be comprehensive.
• It should be attractive.
• Directions should be clear and complete.
• It should be represented in good Psychological order proceeding from general to more specific responses.
• Leading questions should be avoided.
• Putting two questions in one **(double-barreled)** question also should be avoided.
• It should avoid annoying or embarrassing questions.
• It should be designed to collect information which can be used subsequently as data for analysis.
Sampling & Sampling Designs

1. Population/Universe - collection of all the items under consideration or under any field of inquiry

2. Census - complete enumeration of all the items in the population

3. Sampling design - a method for obtaining a sample from a population

4. Sampling frame - a list of the items or people forming a population from which a sample is taken

5. Sampling unit - refers to a singular value within a sample database
Characteristic of A good Sample

1. Must be representative of the population
2. In quantitative research, it must result into small sampling error - sampling error.
   - The **sampling error** is the difference between a **sample statistic** used to estimate a population parameter and the actual but unknown value of the parameter.
   - **Statistic** is a summary measure of a sample while a **parameter** is a summary measure of a population
3. Must be viable in the context of the results available
4. The results from the sample must be applicable to the general population with a reasonable level of confidence.
Qualitative Sampling Designs

- The goal of qualitative research is to provide in-depth understanding and therefore, targets a specific group, type of individual, event or process.
- The sampling designs under this research approach are mostly non-probabilistic.
- These are;
  1. Purposeful sampling
  2. Quota sampling
  3. Snowballing sampling
1. Purposeful sampling

• This is the commonly used design

• Participants are selected based on pre-selected criteria based on the research question.

• This type of sampling can be very useful in situations when you need to reach a targeted sample quickly, and where sampling for proportionality is not the main concern.
Qualitative Sampling Designs...

2. Quota sampling

• This is a sampling technique whereby participant quotas are preset prior to sampling. Typically, the researcher is attempting to gather data from a certain number of participants that meet certain characteristics that may include things such as age, sex, class, marital status.

• Researchers look for a specific characteristic in their respondents, and then takes a tailored sample that is in proportion to a population of interest.

• Quota sampling is similar to stratified random sampling only that the samples from each stratum do not need to be random samples.
Qualitative Sampling Designs...

3. **Snowball Sampling**

• This method is also known as chain referral sampling

• Participants refer the researcher to others who may be able to potentially contribute or participate in the study

• This method often helps researchers find and recruit participants that may otherwise be hard to reach
Quantitative Sampling Designs

They include;

1. Simple random sampling
2. Stratified sampling
3. Systematic sampling
4. Cluster sampling
5. Multistage sampling
Quantitative Sampling Designs...

1. Simple Random Sampling

• SRS is a sampling procedure which ensures each member of the population has an equal chance of being included in the sample.

• Members can be selected by using a fishbowl, that is, by drawing names from a hat.

• Alternatively, we may use a random number table

• Useful when the population is homogeneous
2. Systematic Sampling

• This is a sampling procedure in which a start point is selected by a random process and then every kth member of the list is selected.
• The first step in selecting a systematic sample is to determine the sampling interval. The *sampling interval* is given as: \( K = \frac{N}{n} \).
• Where \( N \) represents the population size and \( n \) represents the sample size
• Once the sample interval is known we choose a random number between 1 and \( k \). Suppose this number is \( K \).
• Then the sample units included are \( K, K+k, K+2k, \) etc.
Quantitative Sampling Designs...

3. Stratified Sampling

• Stratified sampling is a sampling procedure whereby simple random subsamples that are more or less to some characteristic are drawn from within each stratum of the population.

• Stratified samples can be proportionate or disproportionate.

• Proportional stratified sample is a sampling procedure whereby the number of sampling units drawn from each stratum is proportional to the size of the stratum.
Quantitative Sampling Designs...

4. Cluster Sampling

- Cluster sampling is economically efficient sampling technique in which the primary sampling unit is not the individual element in the population but a larger cluster of elements.

- Clusters are selected randomly. The research may examine all or some of the elements in the selected clusters. In order to a cluster sample produce good results the cluster must be a mirror image of the population (should be as heterogeneous as the population).

- Cluster sampling suffers from the weakness of producing estimates with large standard deviation.

- To compensate for this cluster samples must be larger compared to simple random sampling or cluster sampling.
5. Multistage Sampling

- Multistate sampling refers to a cluster sampling which involves more than one state of drawing elements.
- In the first stage a simple random sample of clusters is selected.
- In the second stage a simple random sample of units is selected from the units that were selected from the first stage.
Q & A Session
Breakaway Session Activity

Qtn. Please take time to read your study extract and then discuss the following questions in groups for 10mins

1. What methodology does the researcher employ?
2. How do they justify their choice of methodology, technique or case selection for the research in question?
3. Do you think the methodology is appropriate? Why?
4. What are the strengths of the research design and methodology?
4. Are there any limitations or areas you would change / improve?


Thank you for your attention