Steps in Research Process

- Research process contains a series of closely related activities which has to carry out by a researcher. Research process requires patients. There is no measure that shows your research is the best. It is an art rather than a science. Following are the main steps in social or business research process.

- Selection of Research Problem

- Extensive Literature Survey

- Making Hypothesis

- Preparing the Research Design

- Sampling

- Data collection

- Data Analysis

- Hypothesis Testing

- Generalization and Interpretation

- Preparation of Report

Steps in Research Process

Selection of Research Problem

The selection of topic for research is a difficult job. When we select a title or research statement, then other activities would be easy to perform. So, for the understanding thoroughly the problem it must have to discuss with colleagues, friend, experts and teachers. The research topic or problem should be practical, relatively important, feasible, ethically and politically acceptable.

Literature Review or Extensive Literature Survey

After the selection of research problem, the second step is that of literature mostly connected with the topics. The availability of the literature may bring ease in the research. For this purpose academic journals, conference and govt. reports and library must be studied.

Steps in Research Process

- Making Hypothesis

- The development of hypothesis is a technical work depends on the researcher experience. The hypothesis is to draw the positive & negative cause and effect aspects of a problem. Hypothesis narrows down the area of a research and keep a researcher on the right path.

- Preparing the Research Design

- After the formulation of the problem and creating hypothesis for it, research Design is to prepare by the researcher. It may draw the conceptual structure of the problem. Any type of research design may be made, depend on the nature and purpose of the study. Daring R. Design the information about sources, skill, time and finance is taken into consideration.

- Sampling

- The researcher must design a sample. It is a plan for taking its respondents from a specific areas or universe. The sample may be of two types:

1. Probability Sampling

2. Non-probability Sampling

Steps in Research Process

- Data collection

- Data collection is the most important work, is researcher. The collection of information must be containing on facts which is from the following two types of researcher

- Primary Data Collection: Primary data may be from the following.

- 1. Experiment

- 2. Questionnaire

- 3. Observation

- 4. Interview

- Secondary data collection: it has the following categories:

- 1. Review of literature

- 2. Official and non-official reports

- 3. Library approach

Steps in Research Process

- Data Analysis

- When data is collected, it is forwarded for analysis which is the most technical job. Data analysis may be divided into two main categories. Data Processing: it is sub-divided into the following.

- Data Processing:
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- Data editing, Data coding, Data classification, Data tabulation, Data presentation, Data measurement
- Data Exposition:
- Date Exposition has the following sub-categories. Description, Explanation, Narration, Conclusion/Findings, Recommendations/Suggestions
- Hypothesis Testing
- Research data is then forwarded to test the hypothesis. Do the hypothesis are related to the f acts or not? To find the answer the process of testing hypothesis is undertaken which may result in accepting or rejecting the hypothesis.
- Generalization and Interpretation
- The acceptable hypothesis is possible for researcher to arrival at the process of generalization or to make & theory. Some types of research has no hypothesis for which researcher depends upon on theory which is known as interpretation.

Steps in Research Process

Preparation of Report

A researcher should prepare a report for which he has done is his work. He must keep in his mind the following points:

Report Design in Primary Stages

The report should carry a title, brief introduction of the problem and background followed by acknowledgement. There should be a table of contents, grapes and charts.

Main Text of the Report

It should contain objectives, hypothesis, explanations and methodology of the research. It must be divided into chapters and every chapter explains separate title in which summary of the findings should be enlisted. The last section would be clearly of conclusions to show the main theme of the R-study.

Closing the Report

After the preparation of report, the last step in business research process contains of bibliography, references, appendices, index and maps or charts for illustration. For this purpose the information should more clearer.

Ethics in Business Research

- Ethics are norms or standards of behavior that guide moral choices about our behavior and our relationship with others. As in other aspects of business, all parties in research should exhibit ethical behavior. The goal of ethics in research is to ensure that no one is harmed or suffered adverse consequences from research activities. However, unethical activities are pervasive and include violating non-disclosure agreement, breaking respondent confidentiality, misrepresenting results, deceiving people, invoicing irregularities, avoiding legal liability, and more.

- As research is designed, several ethical considerations must be balanced:

- Protect the rights of the participant or subject.

- Ensure the sponsor receives ethically conducted and reported research

- Follow ethical standards when designing research

- Protect the safety of the researcher and team

- In general, research must be designed so a respondent does not suffer physical harm, discomfort, pain, embarrassment, or loss of privacy. Begin data collection by explaining to respondent the benefits expected from the research.

- Explain that their rights and well-being will be adequately protected and say how that will be done. Be certain that interviewers obtain in the inform consent of the respondent. The use of deception is questionable; when it is used, debrief any respondent who has been deceived.

Formatting guidelines for Report Writing

- Effective report formatting ensures clarity, readability, and a professional appearance. Below are standard **guidelines** to follow when writing a report, applicable to academic, technical, and professional reports.

- General Structure

Section	Purpose
Title Page	Report title, your name, designation, date, institution
Abstract / Executive Summary	Brief summary of the entire report (usually 100–200 words)
Table of Contents	List of sections and page numbers
Introduction	Context, objectives, scope
Main Body	Detailed analysis, data, arguments
Conclusion	Summary of findings, recommendations
References	List of all sources used
Appendices	Supplementary materials (data, charts, code, etc.)

Formatting guidelines for Report Writing

- Formatting Style

Element	Guideline
Font	Times New Roman or Arial
Font Size	12 pt (main text), 14 pt (headings)
Line Spacing	1.5 or double spacing
Alignment	Justified or left-aligned text
Margins	1 inch (2.54 cm) on all sides
Page Numbering	Bottom-right or centered; start after title page
Headings	Use hierarchy: e.g., 1.0, 1.1, 1.1.1 for sections
Paragraph Indent	First line indent or spacing between paragraphs (not both)

Formatting guidelines for Report Writing

- ## Language & Style

  - Use formal and objective language.
  - Avoid contractions (use *do not* instead of *don't*).
  - Use third-person and passive voice where appropriate.
  - Be concise and precise — avoid unnecessary jargon.

- ## Visual Elements

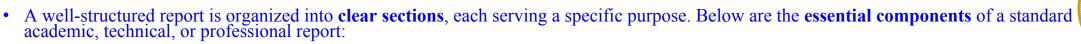| Element	Guideline
Tables & Figures	Numbered and titled (e.g., *Table 1: Sales Growth*)
Charts & Graphs	Clearly labeled axes, legends, and sources
Captions	Below figures; above tables
Referencing	Cite in-text (APA, MLA, IEEE, etc.) and list in References section

Final Touches

- Proofread for grammar, consistency, and formatting errors.
- Use consistent styles throughout (fonts, headings, line spacing).
- Include a cover page and binding (if printed).
- If submitting digitally, export to PDF to preserve layout.

Components of a Report

- A well-structured report is organized into **clear sections**, each serving a specific purpose. Below are the **essential components** of a standard academic, technical, or professional report:
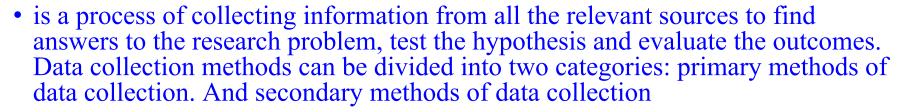
- Title Page
  - Title of the report, Author's name and affiliation, Date of submission, Institution/organization name

- Acknowledgement *(optional)*
  - Expresses gratitude to those who helped in the completion of the report (e.g., guides, institutions, peers).

- Abstract / Executive Summary
  - A brief summary (100–200 words) of: The purpose of the report, Key findings ,Conclusions or recommendations, Executive summaries are common in business reports.

- Table of Contents
  - Lists all sections and sub-sections with corresponding **page numbers**.

- List of Figures and Tables *(if applicable)*
  - Helps readers locate visual elements quickly.

- Introduction
  - Purpose and objectives of the report, Background or context ,Scope and limitations ,Brief overview of the structure

- Methodology *(in technical or research reports)*
  - Describes the **methods, tools, techniques** or procedures used

- Main Body / Discussion / Analysis
  - Core part of the report, Organized into sections and sub-sections
  - Contains: Data, observations, and analysis, Arguments and evidence, Diagrams, tables, figures

- Results / Findings
  - Presents the **outcomes** of your analysis or research

- Conclusion

- Recommendations *(if required)*

- References / Bibliography

- Appendices

Data Collections Methods and tools

- Data collection

- is a process of collecting information from all the relevant sources to find answers to the research problem, test the hypothesis and evaluate the outcomes. Data collection methods can be divided into two categories: primary methods of data collection. And secondary methods of data collection

- Primary Data Collection Methods

- Primary data collection methods can be divided into two groups: quantitative and qualitative. Quantitative are based in mathematical calculations in various formats. Methods of quantitative data collection and analysis include questionnaires with closed-ended questions, methods of correlation and regression, mean, mode and median and others.

- Qualitative, on the contrary, do not involve numbers or mathematical calculations. Qualitative research is closely associated with words, sounds, feeling, emotions, colors and other elements that are non-quantifiable.

- Qualitative studies aim to ensure greater level of depth of understanding and qualitative data collection methods include interviews, questionnaires with open-ended questions, focus groups, observation, game or role-playing, case studies etc.

Step 1: Identify issues and/or opportunities for collecting

Step 2: Select issue(s) and/or opportunities and set

Step 3: Plan an approach and methods

Step 4: Collect data

Step 5: Act on results

Data Collections Techniques

- Information you gather can come from a range of sources.

- There are a variety of techniques to use when gathering primary data. Listed below are some of the most common data collection techniques.

- Interviews

- Questionnaires and Surveys

- Observations

- Focus Groups

- Documents and Records

Technique	Key Facts	Example
Interviews	• Interviews can be conducted in person or over the telephone • Interviews can be done formally (structured), semi-structured, or informally • Questions should be focused, clear, and encourage open-ended responses • Interviews are mainly qualitative in nature	One-on-one conversation with parent of at-risk youth who can help you understand the issue
Questionnaires and Surveys	• Responses can be analyzed with quantitative methods by assigning numerical values to Likert-type scales • Results are generally easier (than qualitative techniques) to analyze • Pretest/Posttest can be compared and analyzed	Results of a satisfaction survey or opinion survey
Documents and Records	• Consists of examining existing data in the form of databases, meeting minutes, reports, attendance logs, financial records, newsletters, etc. • This can be an inexpensive way to gather information but may be an	To understand the primary reasons students miss school, records on student absences are collected and analyzed