

7. Research Report Writing

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7.1 Introduction:

A research report is considered a major step of any research study as the research remains incomplete till the report has been presented or written. The strenuous efforts of the research work which stretch over a long period, requiring enormous amount of studying, data collection, result analysis, interpretation, the findings of the research are of little value unless they are effectively documented and communicated to others. The research report is written after the research is completed. In this all the steps used for research are elaborated upon with rationalization to make it understandable.

Reason for the research report is to circulate to interested persons about the steps involved in the research in a sequential manner with logics involved in each step to convince the readers about the rationalized presentation of the research study with final summary to give it a complete Project appearance.

Thus it is the last part of a research which compiles all the steps performed like gap in problem to be studied, hypotheses formulations, research design, data collection, results and analysis and discussion and interpretation and final conclusion.

All this summation gives a complete look to the Research Reports Writing a research report is a systematic step by step presentation which incorporates lot of thinking, mental works, reading of lots of past resources, etc and then filling the gaps in problems found in a rational method with presentation in proper communicative language to make it appear as flawless as possible.

7.2 Types of Report:

Research reports are written differently in different subjects. On that basis the length and type of report is made. For example annual reports in tabular forms are common way of presentation in banks and other financial institutions.

In mathematics, many algebraic notations may be applied, in chemistry reports may include many form of symbols and formulae. Literature reports are usually description of generalizations derived from writings of writers.

Other examples of reports include book reviews, reports prepared by government bureaus, PhD theses, etc. Any research investigation may be presented in like a technical report, a popular report, an article, a monograph, or, at times, even in the form of an oral presentation

7.3 Writing the Research Report:

Once the data collection and analysis work is over, the researcher will start writing the research report. Social and development research reports need to have a logical, clear structure with the usage of simple language, and have an attractive appearance.

Just as an architect has to draw a framework for the house that is being designed, The researcher must sketch out the framework for your report. This framework includes a head, a body, and a tail. The head consists of a description of your problem within its context (the country and research area), this may be termed as synopsis or the preliminary pages. It incorporates the objectives of the study, gap in questions which are being studied and the hypotheses formed and the way in which analysis will be done. And the methodology followed. Just as head it is the first portion of the thesis and should not be very elaborate. The body will form the bigger part of your report: it will contain the basic results, hypotheses testing through statistical tools usage and the outcomes there in. research findings.

The tail, finally, consists of the discussion of the data collected and analysed by linking findings with results of other researcher's findings in the same area. This may prove whether the researcher's findings are unique or matching with other findings. Next will be conclusions, limitations encountered and recommendations.

Before research report writing starts researcher must match the data collected and analysed with the objectives which have been specified in the introductory phase. Check for any gaps which might be missed. Draw major conclusions and relate them with findings of other studies reviewed in the literature portion. One may also check the data collected in their primary form to check if anything is left out. Again, researcher may be propelled to do some more analysis to check some aspect missed out.

Apart from quantitative analysis qualitative data analysis may be done and conclusions drawn from them and may be tabulated or drawn in form of bar diagrams or graphs, etc.

After going through all these steps report writing may start. The research report will have, broadly, three parts.

Part I: The Preliminary Pages

Part II: The Main Text of the Research Report

Part III: The End Matter

Part I: The preliminary pages of the research report should have the following main elements.

Title and cover page: The cover page should contain the title, the names of the authors with their designations, the institution that is publishing the report with its logo, the month, and the year of publication. For e.g.

Effeminacy of Agriculture: Impact Analysis of Mahila Kisaan Sashaktikaran Pariyojana on Socio-Economic Status, Knowledge and Decision Making of Women.

- A foreword: Often, a foreword will tell of some interaction between the writer of the foreword and the story, and the writer of the story. It is written by some other person about the researcher or his views, etc.
- Preface: A preface, by contrast, is written by the author of the book. A preface generally covers the outline of the research presented.
- Acknowledgements: In this step the researcher thanks all persons who have played a role in his research conduct, analysis and writing. All persons who have been a support during the research completion process are shown gratitude.
- Table of contents: A table of contents presents the order in which the various phases of research are carried out, what are the numbers on which they are depicted in the thesis. It provides the reader a quick overview of the chapters with major sections and sub sections of the research report, and page references, so that the reader can go through the report as per his requirement. The sections and sub sections within each chapter may be given numbers that are specific to the chapter
- List of tables: If there are tables in the research report than they should be presented in tabular form revealing the pages on which the tables and their descriptions are provided. It is essential to list these also in the table of contents formatted with page numbers. The initial letters of the key words in the title are capitalized and no terminal punctuation is used
- List of figures: The list of figures appears in the same format as the list of tables, together with the titles applied to them.
- List of appendices: Appendices are presented after the complete report is written including questionnaire, a letter of appreciation, a government notification, the list of appendices appears in the same format as the list of tables.
- List of abbreviations: If abbreviations or acronyms are used in the report, these should be stated in full in the text the first time that they are mentioned. If there are many, they should be listed in alphabetical order as well. The list can be placed before the first chapter of the report. The table of contents and lists of tables, figures, abbreviations should be prepared last, as only then can you include the page numbers of all chapters and sections, sub-sections in the table of contents. Then, you can also finalize the numbering of figures and tables and include all abbreviations.
- Executive Summary: The summary will be the first (and for busy programme manager/decision makers most likely the only) part of your study that will be read. The summary should be written only after the completion of research. It should contain a bird eye view of the research work i.e. a very brief description of the problem (Why this study was needed) - the main objectives (What has been studied) the place of study (Where) the type of study and methods used (How) the major findings and conclusions
• the major (or all) recommendations. Therefore, it demands thorough reflection and is time consuming. Errors should not be there. Writing should be clear, language should be appropriate to understand. Several drafts may have to be made, after discussing the previous one with your seniors or guide. As you may have collaborated with various groups during the drafting and implementation of your research proposal, you may consider writing different summaries for each of these groups. For example, you may prepare different summaries for policymakers and programme managers, for

implementing staff of lower levels, for community members, or for the public at large (newspaper, TV). In a later stage, you may write articles in scientific journals. In this section, we discussed about the types of report and the contents to be included in the preliminary pages of research report.

Part II: The Main Text includes the following chapters • Introduction • Review of Literature • Methodology • Research Findings • Discussion • Conclusion and Recommendations • Summary

Chapter 1: Introduction:

The introduction includes discussion of the concept which is being studied in the research, it should contain the nature of problem, why it is an issue for study. What are the relevant environmental/ administrative/ economic/ social) background data and information about the topic on which you are carrying out research. It can be drafted after understanding the concept yourself (for example if you are doing research on higher level education, then a brief about the value of higher education, Where are they being provided, how many are there in one state, what is the reason for enhancing higher education, How much expenditure is occurring on higher education, on the basis of research what will be the advantage for society, etc. You may make additions to the corresponding section in your research proposal, including additional literature, and use it for your report. Then, the statement of the problem should follow, again, after referring to report writing proposal that will make it more relevant. With additional comments and relevant literature collected during the implementation of the study. It should contain a paragraph on what you hope/ hoped to achieve from the results of the study. Enough background should be given to make clear to the reader why the problem was considered worth investigating. The general and specific objectives should also be included in this chapter. If necessary, you can adjust them slightly for style and sequence. However, you should not change their basic nature. If you have not been able to meet some of the objectives of the project, this should be stated in the methodology section, and in the discussion of the findings. The objectives form the heart of your study. They determined the methodology you chose and will determine how you structure the reporting of your findings. 5.5.2

Chapter 2: Review of Literature:

Global literature can be reviewed in the introduction to the statement of the problem if you have selected a problem of global interest. Otherwise, relevant literature from individual countries may follow as a separate literature review after the statement of the problem. A literature review is a body of text that aims to review the critical points of current knowledge and or methodological approaches on a particular topic. Literature reviews are secondary sources, and, as such, do not report any new or original experimental work. Its ultimate goal is to bring the reader up to date with current literature on a topic, and forms the basis for another goal, such as future research that may be needed in the area. A well-structured literature review is characterized by a logical flow of ideas; current and relevant references with consistent, appropriate referencing style; proper use of terminology; and an unbiased and comprehensive view of the previous research on the topic. One research study should be presented in one paragraph and it should mention the name of the researcher, year of study, topic and area of study, sample size, main objectives, and findings of the study.

Chapter 3: Methodology:

The methodology adopted in conducting the study must be fully explained. The scientific reader would like to know about the basic design of the study, the Data Collection and Analysis methods of data collection, information regarding the sample used in the study, the statistical analysis adopted and the factors limiting the study. The methodology section should include a description of • the study type • major study themes or variables (a detailed list of variables on which data was collected may be annexed) • the study/ target population(s), sampling method(s) and the size of the sample(s) • data collection techniques used for the different study populations • duration of data collection • how the data was collected and by whom • procedures used for data analysis, including statistical tests (if applicable) • any constraints and its management • limitations of the study. If you have deviated from the original study design presented in your research proposal, you should explain to what extent you did so, and why. The consequences of this deviation for meeting certain objectives of your study should be indicated. If the quality of some of the data is weak, resulting in possible biases, this should be described as well under the heading ‘limitations of the study’.

Chapter 4: Research Findings:

A detailed presentation of the findings of the study with supporting data in the form of tables and charts, together with a validation of the results is the next step in writing the main text of the report. The result section of the study should contain the statistical summaries and reductions of data, rather than raw data. All the results should be presented in a logical sequence and split into readily identifiable sections. The systematic presentation of your findings in relation to the research objectives is the crucial part of your report. The list of data by objectives will help you to decide how to organize the presentation of data.

The decision concerning where to put what can best be made after all data have been fully processed and analysed, and before the writing Report Writing starts.

When all data have been analysed, a detailed outline has to be made for the presentation of the findings. This will help the decision-making on how to organize the data, and is an absolute precondition for optimal division of tasks among group members in the writing process. At this stage you might as well prepare an outline for the whole report, taking the main components of a research report as a point of departure.

An outline should contain • the headings of the main sections of the report • the headings of subsections • the points to be made in each section • the list of tables, figures and/or quotes to illustrate each section. The outline for the chapter on findings will predictably be the most elaborate. The first section under findings is usually a description of the study/ target population. When different study populations have been studied, you should provide a short description of each group before you present the data pertaining to these informants.

Then, depending on the study design, you may provide more information on the problem you studied (size, distribution, characteristics). Thereafter, in an analytic study, the degree to which different independent variables influence the problem will be discussed.

Chapter 5: Discussion:

The findings can now be discussed by objective or by cluster of related variables or themes, which should lead to conclusions and possible recommendations. The discussion may also include findings from other related studies that support or contradict your own. Discussion may relate the research findings with other studies linked with the present research and whether it relates significantly to the findings of the results or not, and what may be the cause of such findings.

Chapter 6: Conclusions and Recommendations:

The conclusions and recommendations should follow logically from the discussion of the findings. Conclusions can be short, as they have already been elaborately discussed in Chapter 5. As the discussion will follow the sequence in which the findings have been presented (which in turn depends on your objectives) the conclusions should logically follow the same order. Sometimes, it is advisable to present conclusion and recommendations in specific sections related to issues of importance/under investigation/objectives of the study for better clarity to different stake holders. The conclusions should be given in bullets so that it can easily catch the attention of the reader. Remember that action-oriented groups are most interested in this section.

The conclusions should be followed by suggestions or recommendations. While making recommendations, use not only the findings of your study, but also supportive information from other sources. The recommendations should be generated from the findings and conclusions. It should not be generalized; rather it should be specific to particular stake holders in pure, actionable term which is feasible in relation to social context, policy and constitution of country, political acceptability, budget, time, etc. One should not give general recommendations such as, “Government should provide free treatment to everyone for all health problems”.

If your recommendations are short (roughly one page), you might include them all in your summary and omit them as a separate section in Chapter 6 in order to avoid repetition. 5.5.7

Chapter 7: References:

This is the list of books/articles in some way pertinent to the research which was followed while conducting research. It should contain all those works which the researcher has consulted. The references in your text can be numbered in the sequence in which they appear in the report and then listed in this order in the list of references (Vancouver system). Another possibility is the Harvard system of listing in brackets the author’s name(s) in the text, followed by the date of the publication and page number, for example: (Sharma et. Al., 2000: 84). In the list of references, the publications are then arranged in alphabetical order by the principal author’s last name. You can choose either system as long as you use it consistently throughout the report unless some guidelines specifically ask for it (in case of research publications). The references should be given in the following order. 1) Name of the author, last name first. 2) Title, underlined to indicate italics. 3) Place, publisher and date of publication. 4) Number of volumes.

Chapter: 8 Annexure:

The annexes should contain any additional information needed to enable professionals to follow your research procedures and data analysis. Information that would be useful to special categories of readers but is not of interest to the average reader can be included in annexes as well. Examples of information that can be presented in annexes are • tables, figures (graphs) and pictures referred to in the text but not included in order to keep the report short • lists of hospitals, districts, villages, etc., that participated in the study • questionnaires or check lists used for data collection • A list of research team members.

Note: Never start writing without an outline.

Style and Layout of the Report:

The style of writing and layout of writing are two important components of report writing. However, revising and finalizing the text may also be considered as another important aspect in same line.

Style of Writing Remember that your reader is short of time has many other urgent matters demanding his or her interest and attention is probably not knowledgeable concerning 'research jargon'. Therefore, the rules are easily understandable simple style.

Keep to the essentials:

Give rationalization for what you have done. Don't use common sense information, it should be based on facts and theories studied and referred. Do not quote the name of anyone who has provided the information in Report Writing In case of sensitive findings, one should not mention name of village/ location, etc. Quantify when you have the data to do so; like 50%, don't say less or much, large or small be precise and specific in your phrasing of findings.

Use fact based information, - avoid exaggeration

Use brief sentences

Use adverbs and adjectives seldom, only objective facts should be presented

Be consistent in the use of tenses, like past, present, etc.

Avoid the passive voice, as it creates vagueness (e.g., 'patients were interviewed' leaves uncertainty as to who interviewed them)

Aim to be logical and systematic in your presentation.

Layout of the Report

A good physical layout is important, as it will help your report

- Make an impressive start.

Motivate readers to read and show their interest in what they want to read first. Particular attention should be paid to make sure there is

- An attractive layout for the title page and a clear table of contents
- Consistency in margins and spacing
- Consistency in headings and subheadings, e.g.: Font size 16 or 18 bold, for headings of chapters; size 14 bold for headings of major sections; size 12 bold, for headings of sub-sections, etc.
- Good quality printing and photocopying
- Correct drafts carefully with spell check as well as critical reading for clarity by other team-members, your facilitator and, if possible, outsiders
- Numbering of figures and tables, provision of clear titles for tables, and clear headings for columns and rows, etc.
- Accuracy and consistency in quotations and references.

Part III: The End Matter

Revising and Finalizing the Text.

Prepare a double-spaced first draft of your report with wide margins so that you can easily make comments and corrections in the text. Have several copies made of the first draft, so you will have one or more copies to work on, and one copy on which to insert the final changes for revision.

When a first draft of the findings, discussion, and conclusions has been completed, all working group members and facilitators should read it critically and make comments. The following questions should be kept in mind when reading the draft. Have all important findings been included?

- Do the conclusions follow logically from the findings? If some of the findings contradict each other, has this been discussed and explained, if possible? Have weaknesses in the methodology, if any, been revealed?
- Are there any overlaps in the draft that have to be removed?
- Is it possible to condense the content? In general a text improves by shortening. Some parts less relevant for action may be included in annexes. Check if descriptive paragraphs may be shortened and introduced or finished by a concluding sentence.
- Do data in the text agree with data in the tables? Are all tables consistent (with the same number of informants per variable), are they numbered in sequence, and do they have clear titles and headings?
- Is the sequence of paragraphs and subsections logical and coherent? Is there a smooth connection between successive paragraphs and sections? Is the phrasing of findings and conclusions precise and clear?

The original authors of each section may prepare a second draft, taking into consideration all comments that have been made. However, you might consider the appointment of two editors amongst yourselves, to draft the complete version. The help from proof readers may also be taken to remove minor mistakes from the draft. It is advisable to have one of the other groups and facilitators read the second draft and judge it on the points mentioned in the previous section. Then a final version of the report should be prepared. This time you should give extra care to the presentation and layout: structure, style and consistency of spelling (use spell check!). Use verb tenses consistently. Descriptions of the field situation may be stated in the past tense (e.g., 'five households owned less than one acre of land.'). Conclusions drawn from the data are usually in the present tense (e.g., 'Food taboos hardly have any impact on the nutritional status of young children.')

Common Weaknesses in Report Writing and Finalizing the Text:

It is important to know the general mistakes committed in report writing and also the points to consider while finalising the text.

A. Endless Description without interpretation: Often tables are given without any interpretation. That is a waste. Please always relate tables with findings and what they mean. Tables need conclusions, not mere detailed presentation of all numbers or percentages in the cells which readers can see for themselves. The chapter discussion, in particular, needs comparison of data, highlighting of unexpected results, your Report Writing own or others' opinions on problems discovered, weighing of pro's and con's of possible solutions. Yet, too often the discussion is merely a dry summary of findings.

B. Neglect of Qualitative Data is also quite common. Quotes of informants as illustration of your findings and conclusions make your report lively. They also have scientific value in allowing the reader to draw his/her own conclusions from the data you present. (Assuming you are not biased in your presentation!). Presentation of important photographs also makes report attractive and explains facts better.

C. Sometimes qualitative data (e.g., open opinion questions) are just coded and counted like quantitative data, without interpretation, whereas they may provide interesting illustrations of reasons for the behaviour of informants or of their attitudes. This is serious maltreatment of data that needs correction. In these sections you have read about the main text and end matter of the research report. You have also read about the style and layout of the research report. The general mistakes committed while writing a research report and the method of finalizing the text have also been given.

D. All the aspects presented in Report writing should be taken seriously for making a good research and presenting it in appropriate styles.