

Elements of a research proposal and report

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All research reports use roughly the same format. It doesn't matter whether you've done a customer satisfaction survey, an employee opinion survey, a health care survey, or a marketing research survey. All have the same basic structure and format. The rationale is that readers of research reports (i.e., decision makers, funders, etc.) will know exactly where to find the information they are looking for, regardless of the individual report.

Once you've learned the basic rules for research proposal and report writing, you can apply them to any research discipline. The same rules apply to writing a proposal, a thesis, a dissertation, or any business research report.

The Research Proposal and Report

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General considerations

Research papers usually have five chapters with well-established sections in each chapter. Readers of the paper will be looking for these chapters and sections so you should not deviate from the standard format unless you are specifically requested to do so by the research sponsor.

Most research studies begin with a written proposal. Again, nearly all proposals follow the same format. In fact, the proposal is identical to the first three chapters of the final paper except that it's written in future tense. In the proposal, you might say something like "*the researchers will secure the sample from ...*", while in the final paper,

it would be changed to "*the researchers secured the sample from ...*". Once again, with the exception of tense, the proposal becomes the first three chapters of the final research paper.

The most commonly used style for writing research reports is called "APA" and the rules are described in the *Publication Manual of the American Psychological Association*. Any library or bookstore will have it readily available. The style guide contains hundreds of rules for grammar, layout, and syntax. This paper will cover the most important ones.

Avoid the use of first person pronouns. Refer to yourself or the research team in third person. Instead of saying "*I will ...*" or "*We will ...*", say something like "*The researcher will ...*" or "*The research team will ...*".

A suggestion: Never present a draft (rough) copy of your proposal, thesis, dissertation, or research paper...even if asked. A paper that looks like a draft, will interpreted as such, and you can expect extensive and liberal modifications. Take the time to put your paper in perfect APA format before showing it to anyone else. The payoff will be great since it will then be perceived as a final paper, and there will be far fewer changes.

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Style, layout, and page formatting

Title page

All text on the title page is centered vertically and horizontally. The title page has no page number and it is not counted in any page numbering.

Page layout

Left margin: 1½"

Right margin: 1"

Top margin: 1"

Bottom margin: 1"

Page numbering

Pages are numbered at the top right. There should be 1" of white space from the top of the page number to the top of the paper. Numeric page numbering begins with the first page of Chapter 1 (although a page number is not placed on page 1).

Spacing and justification

All pages are single sided. Text is double-spaced, except for long quotations and the bibliography (which are single-spaced). There is one blank line between a section heading and the text that follows it. Do not right-justify text. Use ragged-right.

Font face and size

Any easily readable font is acceptable. The font should be 10 points or larger. Generally, the same font must be used throughout the manuscript, except 1) tables and graphs may use a different font, and 2) chapter titles and

section headings may use a different font.

References

APA format should be used to cite references within the paper. If you name the author in your sentence, then follow the authors name with the year in parentheses. For example:

Jones (2004) found that...

If you do not include the authors name as part of the text, then both the author's name and year are enclosed in parentheses. For example:

One researcher (Jones, 2004) found that...

A complete bibliography is attached at the end of the paper. It is double spaced except single-spacing is used for a multiple-line reference. The first line of each reference is indented.

Examples:

Bradburn, N. M., & Mason, W. M. (1964). The effect of question order on response. Journal of Marketing Research 1 (4), 57-61.

Bradburn, N. M., & Miles, C. (1979). Vague quantifiers. Public Opinion Quarterly 43 (1), 92-101.

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Outline of chapters and sections

TITLE PAGE

TABLE OF CONTENTS

CHAPTER I - Introduction

- Introductory paragraphs
- Statement of the problem
- Purpose
- Significance of the study
- Research questions and/or hypotheses

CHAPTER II - Background

- Literature review
- Definition of terms

CHAPTER III - Methodology

- Restate purpose and research questions or null hypotheses
- Population and sampling
- Instrumentation (include copy in appendix)

Procedure and time frame
Analysis plan (state critical alpha level and type of statistical tests)
Validity and reliability
Assumptions
Scope and limitations

CHAPTER IV - Results

CHAPTER V - Conclusions and recommendations

Summary (of what you did and found)
Discussion (explanation of findings - why do you think you found what you did?)
Recommendations (based on your findings)

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Chapter I - Introduction

Introductory paragraphs

Chapter I begins with a few short introductory paragraphs (a couple of pages at most). The primary goal of the introductory paragraphs is to catch the attention of the readers and to get them "turned on" about the subject. It sets the stage for the paper and puts your topic in perspective. The introduction often contains dramatic and general statements about the need for the study. It uses dramatic illustrations or quotes to set the tone. When writing the introduction, put yourself in your reader's position - would you continue reading?

Statement of the Problem

The statement of the problem is the focal point of your research. It is just one sentence (with several paragraphs of elaboration).

You are looking for something wrong.

....or something that needs close attention

....or existing methods that no longer seem to be working.

Example of a problem statement:

"The frequency of job layoffs is creating fear, anxiety, and a loss of productivity in middle management workers."

While the problem statement itself is just one sentence, it is always accompanied by several paragraphs that elaborate on the problem. Present persuasive arguments why the problem is important enough to study. Include the opinions of others (politicians, futurists, other professionals). Explain how the problem relates to business, social or political trends by presenting data that demonstrates the scope and depth of the problem. Try to give dramatic and concrete illustrations of the problem. After writing this section, make sure you can easily identify

the single sentence that is the problem statement.

Purpose

The purpose is a single statement or paragraph that explains what the study intends to accomplish. A few typical statements are:

The goal of this study is to...

- ... overcome the difficulty with ...
- ... discover what ...
- ... understand the causes or effects of ...
- ... refine our current understanding of ...
- ... provide a new interpretation of ...
- ... understand what makes ___ successful or unsuccessful

Significance of the Study

This section creates a perspective for looking at the problem. It points out how your study relates to the larger issues and uses a persuasive rationale to justify the reason for your study. It makes the purpose worth pursuing. The significance of the study answers the questions:

- Why is your study important?
- To whom is it important?
- What benefit(s) will occur if your study is done?

Research Questions and/or Hypotheses and/or Null Hypotheses

Chapter I lists the research questions (although it is equally acceptable to present the hypotheses or null hypotheses). No elaboration is included in this section. An example would be:

The research questions for this study will be:

1. What are the attitudes of...
2. Is there a significant difference between...
3. Is there a significant relationship between...

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Chapter II - Background

Chapter II is a review of the literature. It is important because it shows what previous researchers have discovered. It is usually quite long and primarily depends upon how much research has previously been done in the area you are planning to investigate. If you are planning to explore a relatively new area, the literature review should cite similar areas of study or studies that lead up to the current research. Never say that your area is so new that no research exists. It is one of the key elements that proposal readers look at when deciding whether or not to approve a proposal.

Chapter II should also contain a definition of terms section when appropriate. Include it if your paper uses special terms that are unique to your field of inquiry or that might not be understood by the general reader. "Operational definitions" (definitions that you have formulated for the study) should also be included. An example of an operational definition is: "For the purpose of this research, improvement is operationally defined as posttest score minus pretest score".

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Chapter III - Methodology

The methodology section describes your basic research plan. It usually begins with a few short introductory paragraphs that restate purpose and research questions. The phraseology should be identical to that used in Chapter I. Keep the wording of your research questions consistent throughout the document.

Population and sampling

The basic research paradigm is:

- 1) Define the population
- 2) Draw a representative sample from the population
- 3) Do the research on the sample
- 4) Infer your results from the sample back to the population

As you can see, it all begins with a precise definition of the population. The whole idea of inferential research (using a sample to represent the entire population) depends upon an accurate description of the population. When you've finished your research and you make statements based on the results, who will they apply to? Usually, just one sentence is necessary to define the population. Examples are: "The population for this study is defined as all adult customers who make a purchase in our stores during the sampling time frame", or "...all home owners in the city of Minneapolis", or "...all potential consumers of our product".

While the population can usually be defined by a single statement, the sampling procedure needs to be described in extensive detail. There are numerous [sampling methods](#) from which to choose. Describe in minute detail, how you will select the sample. Use specific names, places, times, etc. Don't omit any details. This is extremely important because the reader of the paper must decide if your sample will sufficiently represent the population.

Instrumentation

If you are using a survey that was designed by someone else, state the source of the survey. Describe the theoretical constructs that the survey is attempting to measure. Include a copy of the actual survey in the appendix and state that a copy of the survey is in the appendix.

Procedure and time frame

State exactly when the research will begin and when it will end. Describe any special procedures that will be followed (e.g., instructions that will be read to participants, presentation of an informed consent form, etc.).

Analysis plan

The analysis plan should be described in detail. Each research question will usually require its own analysis. Thus, the research questions should be addressed one at a time followed by a description of the type of statistical tests that will be performed to answer that research question. Be specific. State what variables will be included in the analyses and identify the dependent and independent variables if such a relationship exists. Decision making criteria (e.g., the critical alpha level) should also be stated, as well as the [computer software](#) that will be used.

Validity and reliability

If the survey you're using was designed by someone else, then describe the previous validity and reliability assessments. When using an existing instrument, you'll want to perform the same reliability measurement as the author of the instrument. If you've developed your own survey, then you must describe the steps you took to assess its validity and a description of how you will measure its reliability.

Validity refers to the accuracy or truthfulness of a measurement. Are we measuring what we think we are? There are no statistical tests to measure validity. All assessments of validity are subjective opinions based on the judgment of the researcher. Nevertheless, there are at least three types of validity that should be addressed and you should state what steps you took to assess validity.

Face validity refers to the likelihood that a question will be misunderstood or misinterpreted. Pretesting a survey is a good way to increase the likelihood of face validity. One method of establishing face validity is described here. [How to make sure your survey is valid.](#)

Content validity refers to whether an instrument provides adequate coverage of a topic. Expert opinions, literature searches, and pretest open-ended questions help to establish content validity.

Construct validity refers to the theoretical foundations underlying a particular scale or measurement. It looks at the underlying theories or constructs that explain a phenomena. In other words, if you are using several survey items to measure a more global construct (e.g., a subscale of a survey), then you should describe why you believe the items comprise a construct. If a construct has been identified by previous researchers, then describe the criteria they used to validate the construct. A technique known as confirmatory factor analysis is often used to explore how individual survey items contribute to an overall construct measurement.

Reliability is synonymous with repeatability or stability. A measurement that yields consistent results over time is said to be reliable. When a measurement is prone to random error, it lacks reliability.

There are three basic methods to test reliability : test-retest, equivalent form, and internal consistency. Most research uses some form of internal consistency. When there is a scale of items all attempting to measure the same construct, then we would expect a large degree of coherence in the way people answer those items. Various statistical tests can measure the degree of coherence. Another way to test reliability is to ask the same question with slightly different wording in different parts of the survey. The correlation between the items is a measure of their reliability. See: [How to test the reliability of a survey.](#)

Assumptions

All research studies make assumptions. The most obvious is that the sample represents the population. Another common assumptions are that an instrument has validity and is measuring the desired constructs. Still another is that respondents will answer a survey truthfully. The important point is for the researcher to state specifically what assumptions are being made.

Scope and limitations

All research studies also have limitations and a finite scope. Limitations are often imposed by time and budget constraints. Precisely list the limitations of the study. Describe the extent to which you believe the limitations degrade the quality of the research.

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Chapter IV - Results

Description of the sample

Nearly all research collects various demographic information. It is important to report the descriptive statistics of the sample because it lets the reader decide if the sample is truly representative of the population.

Analyses

The analyses section is cut and dry. It precisely follows the analysis plan laid out in Chapter III. Each research question addressed individually. For each research question:

- 1) Restate the research question using the exact wording as in Chapter I
- 2) If the research question is testable, state the null hypothesis
- 3) State the type of statistical test(s) performed
- 4) Report the statistics and conclusions, followed by any appropriate table(s)

Numbers and tables are not self-evident. If you use tables or graphs, refer to them in the text and explain what they say. An example is: "Table 4 shows a strong negative relationship between delivery time and customer satisfaction ($r=-.72$, $p=.03$)". All tables and figures have a number and a descriptive heading. For example:

Table 4

The relationship between delivery time and customer satisfaction.

Avoid the use of trivial tables or graphs. If a graph or table does not add new information (i.e., information not explained in the text), then don't include it.

Simply present the results. Do not attempt to explain the results in this chapter.

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Chapter V - Conclusions and recommendations

Begin the final chapter with a few paragraphs summarizing what you did and found (i.e., the conclusions from Chapter IV).

Discussion

Discuss the findings. Do your findings support existing theories? Explain why you think you found what you did. Present plausible reasons why the results might have turned out the way they did.

Recommendations

Present recommendations based on your findings. Avoid the temptation to present recommendations based on your own beliefs or biases that are not specifically supported by your data. Recommendations fall into two categories. The first is recommendations to the study sponsor. What actions do you recommend they take based upon the data. The second is recommendations to other researchers. There are almost always ways that a study could be improved or refined. What would you change if you were to do your study over again? These are the recommendations to other researchers.

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List references in APA format alphabetically by author's last name

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Appendix

Include a copy of any actual instruments. If used, include a copy of the informed consent form.

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