

Sample Report Outline

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Abstract

Here is a sample report outline. It is not meant to be the only form, and strongly reflects my own stylistic preference. However, it may be useful to you in the major data analysis projects.

1 SUMMARY

The summary should state the problem concisely, show what you found, and interpret the results briefly. In short, it should be a synopsis of your report. It should contain no figures, but could have a small table. The diagnostic summaries provide some examples here.

2 KEY GRAPHS

Include key graphs, but not too many. Make them neat and self contained. They should be completely labelled so that the client does not have to guess or remember treatment identification, etc. Graphs can be incorporated into the body of the report, but this is often not necessary.

3 BASIC ORGANIZATION

The report should flow nicely from the statement of the problem through design considerations and analysis to results and conclusions. Set up sections with headings which inform the client. The diesel reports had some shortcomings in organization. Learn from those mistakes.

3.1 Introduction

This should state the problem, as in the summary but with more background information. You can indicate here your basic method of approach to the problem, stating in English what you plan to share with the client. The introduction should state briefly, at the end, a phrase about each section of the report.

3.2 Experimental Design/Materials and Methods

Depending on the problem, this may be one or more sections. Here you identify the aspects of the experiment which are key to understanding the design. Some elaboration may be necessary (but keep it short) about subtle issues such as subsampling and repeated measures (correlation, etc.). Here questions about the nature of experimental units, blocking, random assignment and the way measurements were taken should be addressed.

3.3 Data Exploration/Analysis

This section should clearly speak to the client. Avoid patronizing phrases like "obviously", "it is clear that". Write in English with enough depth to let the client understand the spirit of what you did, but refer any essential details to an Appendix. Figures (primary) and tables (secondary) should be self contained and tell a major portion of the story, where possible.

This section should state what you found and how you found it (sometimes it is useful to do this in two sections). It should be organized to tell the story you uncovered, **not** the circuitous path you may have taken to get there. ANOVA tables may or may not be important. Think hard about what should be include and what can be left out. **Keep it simple.**

Ask yourself if you really need an Appendix (mine was taken out years ago). Keep it neat; make it self contained. The Appendix, if needed, you can be more technical.

3.4 Interpretation and Conclusions

Interpretation should appear throughout the report. Remember to respect the client throughout, but especially in the conclusions. People tend to read the summary and conclusions first, glancing at the figures and tables. Later attention is given to the body of the report — provided the parts they read caught their interest.

The concluding section should rehash the results in a concise fashion, in different words than the summary. Refer back to the key questions posed by the client and tie these to the results. The conclusion looks back over the experiment and analysis, and can serve as a springboard for questions and suggestions about future investigation. Include ideas you have about future design considerations. The client may not be able to collect more data, or more precise data, due to costs and other considerations; keep this in mind when you make recommendations.

4 ROLES AND RESPONSIBILITY

There is no right answer to most real problems; however, your report should have enough detail that **another consultant** could figure out what you did and (largely) reproduce it. Remember that as a consultant one of your roles is being an educator. Teach the client good organization and reasoning skills; these are far more important than fancy technical tools. You are also an artist, and will learn best by practice and apprenticeship. Take charge of your learning; find out about the resources at your disposal, including me, the computer and the library. Your own mistakes are also a fundamental part of this process.