

Technical report writing

A quick guide to writing technical reports in Engineering

The main purpose of an Engineering technical report is to present a solution to a problem in order to prompt action.

Technical report writing provides a record of your developing expertise and is a legal record of decision making and work undertaken.

What is a technical report?

Technical reports are a central part of your professional success and are usually designed to:

- Convince the reader of your position;
- Persuade them to act; or
- Inform them of your findings.

They are an opportunity for you to:

- Clearly communicate a solution to a problem;
- Recommend action; and
- Aid decision making.

Technical reports are designed for quick and easy communication of information, and use:

- Sections with numbered headings and subheadings; and
- Figures and diagrams to convey data.

Structure

Regardless of the specific purpose of your technical report, the structure and conventions rarely differ.

Title page

Your title page should follow the conventions required in your subject.

Summary

Your summary should provide your reader with a brief overview of your investigation, outcomes and recommendations. Therefore, it needs to contain all the information the reader needs, without them having to read your full report. Don't treat your summary as an introduction; it should act as a stand-alone document.

Tip: Write your summary last.

Table of contents

Your table of contents should help your reader to quickly and easily find the information they're looking for. To do this, write informative headings. For example:

1.0 Purpose	1
2.0 Background	2
2.1 Types and features of Smoke Exhaust Fans	2
2.2 Smoke Exhaust Fans for the Australian Market	3

Introduction

Your introduction should situate the problem being addressed, discuss relevant previous research and state your aim or hypothesis.

To help, consider these questions:

- What have you investigated?
- How does your study fit into the current literature?

- What have previous studies found in the area?
- Why is it worth investigating?
- What was the experiment about?
- Why did you do it?
- What did you expect to get from it?

Body

You need to present the work itself in the body of your report and decide how to structure it.

To help, ask yourself:

- What does the reader need to know first?
- What is the most logical way to develop the story of the project?

Figures, tables equations and formulae

Consider how your reader can best receive the information in the body of your report. Would a table or figure help to convey your ideas more effectively?

Figures and tables should:

- Be numbered;
- Be referred to in-text, e.g. *In Table 1...*; and
- Include a simple descriptive label - above a table and below a figure.

Equations and formulae should be:

- Numbered;
- Referred to in-text, e.g. *See Eq 1 for...*;
- Centred on the page; and
- On a separate line.

Conclusion

Your conclusion should mirror your introduction.

Be sure to:

- Refer to your aims;
- Summarise your key findings; and
- State your major outcomes and highlight their significance.

Recommendations

If your technical report includes recommendations for

action, you could choose to report these as a bullet point list. When giving an answer to your problem, be sure to include any limitations to your findings.

Your recommendations can be presented in two ways:

Action statements

e.g. *Type approval should be issued for tunnel ventilation fans.*

Conditional statements

e.g. *If fan blades are painted with an anti-corrosion coating system, it is likely that...*

e.g. *The research has found that the fan hub should be constructed from forged steel and the fan housing should be constructed from hot dipped galvanised steel, but future research...*

References

Acknowledge all the information you've incorporated from another source into your paper using a consistent referencing style. Learn more about your specific referencing conventions here:

<https://library.unimelb.edu.au/recite>

Appendices

If you have data that is too detailed or lengthy to include in the report itself, include it in the appendix, should the reader be interested. Label your appendix with a number or a letter and refer to it the text, e.g. *For a full list of construction phases, see Appendix A.*

Resources

To learn more, search the Academic Skills YouTube channel for short videos on:

Executive Summary

Professional Style

Business Report

For more detailed information, search the Monash University website for:

Engineering Technical Report Writing