



TECHNICAL REPORT WRITING FOR ENGINEERS

THE ANATOMY OF A TECHNICAL REPORT

Dr Andrew Garrard, Senior University Teacher, Multidisciplinary Engineering Education, The University of Sheffield: In a technical engineering report, you will find a number of standard sections that are each designed to do a certain job and relay specific types of information to the reader. Putting the correct information in the appropriate sections makes it easy for the writer to ensure they have included everything required and that the order makes sense. It also makes it easy for the reader, who is expecting the report to follow this format, to find the content they're looking for.

Each section of a technical engineering report has its own part to play in the construction of the document.

The title provides a name for the report. It should be a few words that describe the content of the document, which would typically involve the aim of what is trying to be achieved.

An abstract, sometimes called a summary or an executive summary, is the first section to appear after the title, and is a succinct review of all the important information included in the report. The purpose of an abstract is for a reader to determine if they would like to read the report in more detail or to move on if it isn't exactly what they're looking for.

An introduction is a review of the background and context of the work that is presented in the report, setting the reader up to understand why you have chosen to do the work you are discussing. It might include how the work fits into the wider world, how it adds to the current understanding of the field of study, and what you hope to achieve as aims and objectives.

If required, a technical report may contain a theory section, which provides a reader with the necessary technical background to appreciate the work that is presented in the report. If it's critical that the reader understands a particular concept in order to understand your work, then a theory section is the place to describe it.

The procedure section describes the methods or equipment used to achieve the outcomes of the work. It is written as a chronological record of the steps that were



performed to achieve the results, with enough detail to allow the reader to repeat what was done.

The results section presents an impartial record of the outcomes of the work, describing what the results are and what facts or understanding can clearly be extracted from them. Data should be processed to convey the main findings of the work rather than the details of every result.

The discussion is perhaps the most important section of a technical engineering report. It is the opportunity for the writer to analyse results, express their opinions of the work, and provide an interpretation of the significance of the outcomes. It may include conjecture as to why trends in the results have occurred and limitations of the process that has been employed. A discussion can also include a description of the impact of the work and how it will make a change to the world, even if only in a small way.

A conclusion is a short review of the results that have been deduced and the impact of the work. It answers questions posed in the introduction and states if aims and objectives have been met. Readers will quite often skip to the conclusion section of a report to quickly determine what you found out and what it means to them.

A further work section is sometimes included when the writer wants to suggest things that haven't been included in the report that can be done to advance the project.

References are detailed lists of external resources that have been indicated and cited in the main body of the report that readers may want to track down.

Supplementary information that may be of interest to the reader is stored in appendices. These include any material that is worth the reader having access to, but not directly relevant to the main points raised in the report. They are useful to ensure the body of the report isn't cluttered with large amounts of detail that could distract from the main points or confuse the reader.

As technical engineering reports will vary depending on their length, subject and audience, not all sections may be necessary, and the writer has the discretion to omit, include or concentrate on those that are sensible and logical to do so. If structured properly, with the correct pieces of content appearing in the appropriate sections, the report should form a coherent document when brought together, with a narrative that guides the reader through the story of the work.