

## Components of Documents

The **abstract** and **executive summary** are key components because they allow readers to quickly decide whether or not they need / want to read the entire document. Audiences use these summaries to determine:

1. Whether or not the document is relevant
2. What the main conclusions of the document are

What they share: is this specific role in the document, content, and general structure:

1. These summaries are both stand-alone documents, meaning that they should be thought of as being independent from the report. In other words, the readers of your summary may not read the report; it also means that the readers of the report may not have read your summary. Practically speaking, this means that the documents are purely summary: they should not contain any information that is not in the report. However, you should not cut and paste from your report; some readers will read both, and will recognize copied sentences.
2. They should contain all key elements of the report. Given the generic structure of an engineering research paper (See [Online Handbook/Accurate Documentation / Conducting & Understanding Secondary Research in Engineering](#)), this includes:
  - **Situation:** provide context information
  - **Problem:** define the problem that the paper addresses
  - **Solution:** describe the solution – its key characteristics, fundamental principles, and how it solves the problem
  - **Evaluation:** evaluate how well solution solves problem
  - **Recommendations:** give suggestions for future work or implementation

Where they differ: is primarily in audience, which translates to differences in focus, level of discourse, and length.

1. The audience for an executive summary is precisely what the name indicates – executives and managers; the audience for the abstract is usually a more technical reader. A design report may include an executive summary aimed at your boss, who may need to decide whether or not to use your design, and also an abstract for your peers or other engineers who may need to thoroughly understand the design.
2. As audience changes, the content and focus of the summary changes as well:

### **Executive Summary**

Focus: Problem (especially financial aspects), Recs (esp. results of implementing)

Language: Less technical, more financial

Length: Often longer than abstract to reflect different focus, need for background and higher likelihood that readers will only read this summary

### **Abstract**

Focus: Solution, Evaluation

Language: Technical, less background

Length: Less than a page, usually one paragraph long

(See Abstracts and Executive Summaries iWrite Site and below for examples and commentary.)

### **Abstract**

(1) At this time, power utilities major techniques of monitoring their distribution systems are after-the-fact indicators such as interruption reports, meter readings, and trouble alarms. (2) This system is inadequate in that it fails to provide the utility with an accurate picture of the dynamics of the distribution system, and it is expensive. (3) This report describes a project to design a radio-based system for a pilot project. (4) The basic system, which uses packet switching technology, consists of a base unit (built around a personal computer), a radio link, and a remote unit. (5) The

radio-based distribution monitoring system is more accurate than after-the-fact indicators used, small enough to replace the existing meters, and is simple to use. (6) We recommend installing the basic system on a trial basis.

**Commentary:** *This abstract almost demonstrates almost a sentence-component correspondence. (1) = situation, (2) = problem, (3) + (4) = solution, (5) = evaluation, (6) = recommendation.*

## Executive Summary

(1) Presently, we monitor our distribution system using after-the-fact indicators such as interruption reports, meter readings, and trouble alarms. (2) This system is inadequate in two respects: first, it fails to give an accurate picture of the distribution system. (3) Last year, we overproduced by 7 percent, resulting in a loss of \$273 000. (4) Second, it is expensive. (5) Escalating labor costs and an increasing number of “difficult to access” residences have led to higher costs. (6) Last year, we spent \$960 000 reading the meters of 12 000 such residences. (7) The proposed pilot project implements a radio-based distribution monitoring system in these homes.

(8) The basic system consists of a base unit (built around a PC), a radio link, and a remote unit. (9) It is a feasible alternative to our current methods because it is more accurate than after-the-fact indicators currently used, small enough to replace existing meters, and simple to use. (10) Initial capital costs would be recouped within 3.9 years. (11) We recommend installing the basic system on a trial basis; if the trial proves successful, the radio based system could provide a long term solution to the current problems of inaccurate and expensive data collection.

Source: Adjusted from Crowe, 1985, cited in [1]

**Commentary:** *This ES is slightly longer than the abstract above, and adds key details in the following areas:*

- 1. Problem definition: sentences (3) and (5-6) elaborate on the problem, focusing specifically on its cost.*
- 2. Recommendation: it justifies the recommendation by citing cost recovery potential and potential for post trial applications.*

*In essence, it provides a more detailed argument for the recommendation by identifying the monetary cost of the problem and comparing it to the solution.*

*It removes some details about the technology (packet switching technology – sentence 4 above) that may be foreign to non-technical readers.*

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[1] Michael Markel and Helen Holmes. Technical Writing: Situations and Strategies. Scarborough: Nelson Canada, 1994.