

Also, do not confuse the introduction of the paper with the body of the paper. The introduction should NOT include information from the results of any analyses you have done. Analytical results should be restricted to the body of the paper.

As one finishes reading the introduction, one should understand what the company is about, how it makes money in its business, how the focus of the project is involved in making money, and what challenge or opportunity is presented in the current status of the product, process, system, etc. One is then ready to continue to the Problem Statement which will precisely define what the Company sponsor wants to accomplish.

Problem Statement

The Problem Statement must be a concise and complete statement of the focus of the project and the specific criteria, constraints, and deliverables that will be observed and completed. The Problem Statement should also be considered a complete scope of work for everything that is to be accomplished, as viewed by the company sponsor. In other words, the Problem Statement is to be completely unambiguous in nature. It should precisely define what the project should include, and once those items are completed, the project is finished. It defines the goal line. The Problem Statement is written for the sponsor from the standpoint of asking, "What do they want?" If the Problem Statement is ambiguous, then the goal line is ambiguous and it becomes impossible to precisely determine if you have completed everything you have been asked to do – because it is subject to broad interpretation. This can result in "Scope Creep" which allows the project to be extended and expanded again and again such that you never get done. Keep in mind that if you write a precisely defined Problem Statement, you will know when you have done everything that is required, and so will your Advisor, your Graders, and your Sponsor.

Again, the Problem statement is not meant for ANY introductory information. ALL introductory information belongs in the Introduction. An efficient Problem Statement can be written by completing this sentence, "Acme, Inc. desires that ... (insert goals of the project) ... subject to the following criteria:" Then give a numbered list of the constraints, criteria, and deliverables. Continue with the Problem statement immediately after the Introduction without a page break. A sample Problem Statement is given below:

Problem Statement

Solo Cup desires that the airflow efficiency of the mold cavity of the P16 party cup be improved to reduce thermoforming vacuum cycle time. The following deliverables and criteria will be met:

1. The current airflow efficiency through the female mold insert must be analyzed.
2. New female mold insert designs must be developed to improve vacuum airflow.

3. General mold cavity airflow design guidelines must be established for use in other cavity design by Solo Cup personnel.
4. A prototype female mold cavity insert will be made by Solo Cup from drawings provided by the project team for testing by the project team for improved airflow efficiency.
5. Drawings and all findings must be returned to Solo Cup Company with recommendations.
6. Specific recommendations will be made to Solo Cup for further testing and implementation of the new design.
7. All recommendations must meet a one-year payback.

Objectives

The objectives form a “battle plan” for the project, and are essentially a breakdown of the logical steps or accomplishments that must be completed to achieve the overall project goals. The Objectives give the reader a high-level problem solving “algorithm” of all the major tasks that must reasonably be accomplished to complete the project. Write the Objectives from the standpoint of asking, “What do we do?” The objectives form a list of high-level tasks that are necessary to complete the project. The Objectives should be established in the first 2-4 weeks of the project. These will be used to direct the effort for the rest of the project, and may be subject to some revision as the project progresses. The Objectives form a reasonable structure, not only for the work on the project, but also for the rest of your report. Note that the Objectives given in the example below closely match the example Table of Contents given above for the Solo Cup report.

The Objectives should be a numbered list of items with one or two sentences of explanation. If the Objective is almost self explanatory, use only one sentence of explanation. If more explanation is necessary, then a second sentence may be used. The Objectives should not be written as a mini-report of the work you have already accomplished, what it means, etc. Save all of that for the Body of the report. Write the Objectives with a viewpoint from the beginning project just after the first plant trip and first few advisor meetings when the objectives were first established.

Note that the first objective should be “Analysis of Current (Process/Product/System, etc.) “. This Objective is done to establish the current status, costs, metrics, design goals, etc. for the project. See more details about this in the Initial Analysis section in Chapter 2. In some cases, it may be appropriate to begin with a “background” section to give the reader more technical information about the context of the project. This is the case in the example below.