

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 on 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.

The Objectives can be listed after a single sentence such as, “The following objectives were determined to be necessary for the successful completion of this project:”

The Objectives should follow immediately after the Problem Statement with no page break. A sample list of objectives is given below.

Objectives

The following objectives were determined to be necessary for the successful completion of this project:

1. **Review of Thermoforming Process.** The entire thermoforming process must be understood with the forming insert as a integral component in the overall process.
2. **Analysis of Current Mold Cavity Design.** The current female molding insert will be analyzed for airflow efficiency using design drawings and CFD (computational fluid dynamics) software.
3. **Design Alterations.** Weaknesses will be identified from the analysis of the current design allowing modifications to be made to improve airflow efficiency.
4. **Prototype Testing.** Prototypes of the new design will be produced and tested for airflow efficiency to validate CFD results.
5. **Economic Analysis.** Based on the prototype testing, the best designs will analyzed in financial terms meeting the mandatory one-year payback.
6. **Conclusions.** A summary of the findings obtained from experimentation are related to project goals and objectives, including financial and technical benefits as well as further considerations.
7. **Recommendations.** Based on testing and financial viability, a course of action and design changes will be recommended. General design guidelines for female molding inserts will be established and presented.

Body