

ME470 – Systems Design
Product Design Specifications
Customer Needs to Technical Specifications
Due: Thursday October 1, 2009

Overview:

We will be taking the customer needs statements and turning them into technical specifications. In order to do that we will be following the steps described in Ulrich and Eppinger. For each customer need you will write at least one unambiguous and measureable metric. Competitors will be reviewed to determine their values for the metric (benchmarking). From this information, marginal and ideal values for each metric will be selected.

Assignment:

Answer each of the following questions as a team. Since this is a continuation of earlier work, you should be in the groups you used when interviewing customers.

1. Name the product for which the product design specification is being developed.
2. List four customer needs that you will use for benchmarking. Number the needs and put them in a table like Exhibit 5-2 in our book. (The “importance” column should not be included.)
3. For each of the four customer needs, write an appropriate metric with units. Use a table similar to Exhibit 5-4 without the “importance column”.
4. Select three competitors for comparison and create a table like Exhibit 5-6 to communicate the results. Below the table, include references for your sources of information.
5. Select the marginal and ideal values for your design and report them in a table similar to Exhibit 5-8. Include a paragraph or two with a short justification for your selection of design values. Justifications should be based on information from the customer needs survey and the benchmarking process (meeting needs, exploiting market opportunities, addressing competitive issues, ...).
6. Discuss the tradeoffs that will be needed to develop the final specifications. To do this you may need to
 - Examine potential conflicts between the customer needs and resulting metrics.
 - Specify what further information you need and how technical/economic modeling would provide that information.