

13 December 2006

### Manufacturing Process Benchmarking

Manufacturing Process Benchmarking is a process that allows a company to make quantitative comparisons between its performance and that of other similar manufacturing companies.

Every benchmarking process revolves around two key variables that reflect the objectives of the company commissioning the work:

- The practices, metrics and measures that will be studied
- The composition of the comparison group

Earlier benchmarking studies have largely focused on best practices, using measures such as productivity, revenue, cost, financial ratios or inventory turns. Specialized studies often focused on the outcomes critical to the performance of a specific business unit.

Manufacturing process benchmarking is different because it emphasizes activities occurring during manufacturing operations and measures levels of efficiency and productivity. Typical measures of interest to manufacturers include size and age of the equipment, material throughput, labor requirements and the degree of computerized operation. Information about a company that compares with the rest of the industry in these areas can lay the foundation for targeting improvements.

The composition of the comparison group is as important as the practices, metrics and measures in the benchmarking. The comparison group can be compared narrowly or widely as desired by the company. For instance, a company can compare itself with others that implement the same manufacturing process or that serve a similar market. Factors such as total revenue or geographic location are sometimes used to define the comparison group.

On the other hand, companies can position themselves against companies already operating in the market that the sponsoring company desires to enter. The selection criteria depend on the nature of manufacturing output, such as the cost or volume of products produced.

#### **What kind of information is generated?**

Information on benchmarking comes under one of these three categories: practice queries, measurement queries and metrics queries.

**Practice queries** deal with operations, processes or activities that a company may utilize during the normal course of business. Generally, the answers to these queries are in the form of yes/no. Practice queries are useful in gauging the extent to which a certain manufacturing operation or business practice has penetrated an industry. If a benchmark study is repeated, a manufacturer can determine how rapidly the competitors are adopting a specific practice.



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**Measurement queries** also deal with operations, processes or activities, but they introduce a quantitative element to them. For example, the number of hours a machine operates to perform a specific function is a measurement query. What percentage of the machine's output is rejected for quality reasons is also a measurement query.

**Metrics queries** generally concentrate on issues related to productivity or efficiency and are generally the mathematical combination of raw input data.

### **What are the benefits?**

When a company agrees to participate in a benchmarking study, the common expectation is an evaluation of their past performance. Frequently, staff members are apprehensive about how their performance will be portrayed.

Actually, benchmarking data frequently generates details of the company's competitive position and yield benefits that are totally unexpected at the time of study. Benchmarking results pave the way for new corporate strategies.

### **How important is the comparison group?**

Selection of the comparison group is especially important in manufacturing process benchmarking, where the focus is on what is happening on the shop floor. The manufacturers in the comparison group should be as similar as possible. When considering participation in a benchmarking study, a participant should find out how the comparison group is selected. After the completion of the study, the participant may not receive the names of the companies in the comparison group, but should receive profile information such as company size, geographical location breakdown, industries served and average piece price. This information is crucial for assessing the fitness of the group norms with those of the specific company.

### **How important are the confidentiality considerations?**

To produce meaningful results in the benchmarking study, participants should be willing to provide complete and accurate data. Since this data is sensitive and proprietary by nature, companies are rightly concerned about the confidentiality of the information they provide.

Companies participating in a benchmarking study should focus on two areas:

- The participating company should inquire about the data handling practice that will be used in the study and who takes care of the data submission and final report. It should also know the details regarding the distribution of its customized report. When the data is linked to the company's identity by an unauthorized party, the company is more prone to risk. Use of code name or number during data processing minimizes the risk. The company's customized report should not be made available to another participant or to an industry group.
- The second area of consideration is the size of the comparison group. The comparison group should be large enough so that information on best practices (metrics and measures related to the top 5 or 10% of the group) does not reveal proprietary data.



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For example, if the comparison group is comprised of only 10 companies, the best practices data for the top 10% would reveal the actual performance data of the best performer. Normally, comparison groups with a minimum of 20-40 participants are required to get detailed information on best practices, which will not compromise the integrity of the data from any single participant.

Therefore, Manufacturing Process Benchmarking helps companies to find out how well their business is performing relative to their competitors, how rapidly their competitors are investing in new technology, and which new equipment investment will give the best results.