

PHASE 3 ~ DESIGN FOR MANUFACTURING

Deliverable 13 ~ Supplier Selection

Due Date: <http://rrg.utk.edu/resources/BME469/assignments.html#Deliverable13>

INSTRUCTIONS. Select suppliers for manufacturing your device. Your supplier selection document is due electronically to Dr. Jeff Reinbolt (reinbolt@utk.edu) and should be included in your design history file as well.

Purpose

On average, a U.S. manufacturer spends roughly half its revenue to purchase goods and services. A company's procurement manager (buyer) must define and measure the "best value" and execute procurement decisions accordingly. Supplier selection is the process by which the buyer identifies, evaluates, and contracts with suppliers. The selection process has two objectives: 1) to eliminate all obvious misfits and 2) to create a short-list of the most suitable suppliers.

The supplier selection will be used later in the manufacturing plan (phase 3 closing event) and throughout the semester to procure parts and assemblies for manufacturing.

Critical Information

Supplier selection process involves 5 major steps.

1. **Identifying Suppliers.** Buyer identifies qualified potential suppliers
2. **Information Requests.** Buyer formally solicits information from suppliers
3. **Contract Terms.** Suppliers respond by providing "quotes" or contract "bids"
4. **Negotiation.** Buyer negotiates with suppliers to improve their offers
5. **Supplier Evaluation.** Buyer evaluates suppliers to determine which ones will be selected

In general, defining the "ideal supplier" should answer the following questions:

- **Product.** Does the supplier have the type of product and processes/technologies used to manufacture it that you need?
- **Pricing vs. Quality.** Is the supplier focused on low-cost & high volume, or on more complex/customized projects? You should not expect to get the lowest price AND the highest quality. Is the supplier's pricing competitive?
- **Delivery.** Are the parts/assemblies available? Is the shipping time frame reasonable?
- **Company Size.** Do your orders represent less than 40% of the supplier's annual volume, and if possible more than 10%? Similarly, does the supplier have minimum quantity requirements?
- **Main Market.** Do you need a supplier who is familiar with your device requirements? Or do you want to avoid suppliers who might also work for your competition/customers?

- **Development Capability.** Will you rely on them to do heavy development work?
- **Geographical Area.** Do you need the factory to be in a certain city or nearby?
- **Type of Business.** Are you willing to deal with intermediaries or trading companies?
- **Quality Assurance.** Is the supplier certified to ISO 9001 or equivalent standards?

You should spend sufficient time identifying, evaluating, and selecting suppliers for your manufacturing that will keep costs down (product and shipping), maintain quality, and receive deliveries in time for your design process closing events.

Supplier Selection: A Step toward a Manufacturing Plan and Working Prototype

Based on your manufacturing specifications and biocompatible materials, the supplier selection document should address the following points for each of your design's parts or assemblies:

- Supplier contact information
 - Name
 - Address
 - Phone/Fax
 - Website
 - Contact person
- A general description of the parts or assemblies to be procured
- Anticipated usage (i.e., one time only, intermittent, ongoing)
- Payment terms (e.g., purchase order, procurement card)
- Estimated annual dollar amount expected with this supplier (NOTE: must include quotes for parts and/or services to fully document)