Effects of Supplier Quality

Supplier Selection Decisions

Traditionally, “cost” was the overwhelming dimension

Effects of Supplier Quality

Estimates for quality costs
50% are related to the suppliers quality

75% of warranty claims traced to purchased components for appliances supplier quality problem not detected

Method of handling poor supplier quality

Return
Repair

The quantity ordered was often “adjusted” for impact of poor quality (non-conforming product)

Effect of emphasis on low inventories

Lean production
Just in time (JIT)

To be successful, a partnership is required between the supplier and the customer
Supplier Relations and “Partnering”

In the past, only the Purchasing Department dealt directly with the suppliers. This must change due to the skill sets required:
- technical knowledge
- product knowledge
- process knowledge

The relationship was based on “Power”:
Leverage of either the customer or the supplier

Sharing of “risk” is part of partnering:
Sharing of “risk” is part of partnering between customer and supplier:
(i.e., improvement projects)

Traditional versus strategic view of purchasing process:
- Aspect of purchasing - Supplier relationship
  - Traditional view: adversarial, competitive, mistrusting
  - Strategic view: cooperative, partnership, based on trust

Traditional versus strategic view of purchasing process:
- Aspect of purchasing - Length of relationship
  - Traditional view: short term
  - Strategic view: long term; indefinite

Traditional versus strategic view of purchasing process:
- Aspect of purchasing - Quality assurance
  - Traditional view: inspection upon receipt
  - Strategic view: no incoming inspection necessary
Supplier Relations and “Partnering”

Traditional versus strategic view of purchasing process

Aspect of purchasing - Supplier base

Traditional view: many suppliers, managed in aggregate
Strategic view: few suppliers, carefully selected and managed

Aspect of purchasing - Purchasing business plans

Traditional view: independent of end-user organization business plans
Strategic view: integrated with end-user organization business plans

Aspect of purchasing - Focus of purchasing decisions

Traditional view: price
Strategic view: total cost of ownership

Specification of Quality Requirements for Suppliers

Based on “customer” requirements expectations needs

Operational definitions of quality need for effective communication including usage requirements

Specification of “Process” as well as “Product” Characteristics

Defining requirements within the suppliers facility to achieve a quality product

Cost/ specification trade-off

Realistic specifications

“Tight specifications loosely applied”
“Loose specifications rigidly applied”
Acceptance Sampling Plan Terminology

Acceptable Quality Level (AQL)
percentage of defective parts that has a high probability of being accepted

Lot Tolerance Percent Defective (LTPD)
percentage of defective parts that has a low probability of being accepted

Accepters Risk (PR)
probability of accepting a lot that is at the acceptable quality level (AQL)

Consumers Risk (CR)
probability of accepting a lot that is at the lot tolerance percent defective

Example of a real sampling plan

 Specification of “Process” as well as “Product” Characteristics

Defining the supplier quality system

How far into the supplier’s system is the “partnership” involved? (i.e., financial data?)

Supplier Selection

“Make” or Buy Decision

Considering “total” system costs
Supplier Selection

Many or few (single) suppliers

Auto industry in the 80's

Define the product and program requirements
Evaluate potential suppliers
Conduct joint quality planning
Require statistical evidence of quality
Certify supplier or require ISO 9000
Conduct joint quality improvement programs
Create and utilize supplier ratings

Supplier Selection

The “quality team” (many organizational functions) are involved in all aspects

“hands-on” users of the material/items are important sources of information

Supplier Selection

Dimensions

Product life (i.e., equipment purchase)
Specification compliance
On time delivery
Claims
Order processing

Supplier Selection

Dimensions (cont.)

Invoicing
Technical assistance
Financial strength
Competitive pricing
Cost improvement commitments

Supplier Selection

After selection, an audit system is necessary both for control and continuous improvement

On-site and off-site components

Quality Audits
Performing Joint Continuous Improvement Projects

Supplier and customer

Vender Qualifications/Certification

Qualifying the process
Assessing supplier capability
Supplier evaluations
Supplier submits test results for initial production

Scoring Supplier Quality System

Vender Qualifications/Certification

Assessing supplier capability
Levels of certification
“qualified” supplier
“preferred” supplier

ISO 9000 Series Certifications

Discussed later in the course
Assessing, documenting an improving supplier quality
General benefits
reduces the need for supplier audits
improves documentation and control
fosters more communication within the supplier community and with customers

ISO 9000-2000 Series Certifications

“The organization shall evaluate and select suppliers based on their ability to supply products in accordance with the organization’s requirements”
### ISO 9000-2000 Score Card

**Supplier Financial Viability**
- D&B Rating and report
- NASDAQ / E Ratio
- Bank and trade reference

**Product Quality**
- Inspections
- Product performance and reliability
- Number of nonconformance

**ISO 9000-2000 Score Card**

**Flexibility in negotiations**
- Terms
- Quantity Discounts
- Stock Rotation
- Product return Policy
- Freight Costs

**Product Delivery**
- Available to ship product and provide service from multiple locations
- Ability to drop ship

**Price**
- Customer Service
  - Response time
  - Product service operation

**Communications**
- New product offering
- Purchase order acknowledgement
- Response to opportunities for improvement

**ISO 9000-2000 Score Card**

**Use of modern technology**
- Training
- Purchasing
  - EDI (electronic data exchange)
- Compliance with regulatory requirements
- Performance against other best of breed suppliers