

Statistical Process Control and Supply Chain management

Statistical Process Control (SPC) is a widely used sampling technique which checks the quality of an item which is engaged in a process. SPC can also be used to inform management of improved process changes (Krajewski et al., 2010). SPC identifies the nature of variations in a process, which are classified as being caused by 'chance' causes or 'assignable' causes.

Statistical Process Control

- Chance Causes of Variation
- Assignable Causes of Variation
- Control Charts:
 - Variable data
 - Discrete data

Supply Chain Management is the management of the interconnection of organizations that relate to each other through upstream and downstream linkages between the processes that produce value to the ultimate consumer in the form of products and services (Slack et al., 2010). Activities in the supply chain include sourcing materials and components, manufacturing products, storing products in warehousing facilities and distributing products to customers.

Fluctuations in the Supply Chain

The behavior of supply chains that are subject to demand fluctuations has been described as the bullwhip effect and occurs when there is a lack of synchronization in supply chain members, when even a slight change in consumer sales will ripple backwards in the form of magnified oscillations in demand upstream. The bullwhip effect occurs because each tier in the supply chain, increases demand by the current amount, but also assumes that demand is now at this new level, so increases demand to cover the next week also. Thus each member in the supply chain updates their demand forecast with every inventory review.

Supply Chain Procurement

- Choosing Suppliers. If a decision is made to use an external supplier, the next decision relates to the choice of that supplier. Criteria for choosing suppliers for quotation and approval include the following:
 - *Price*
 - *Quality*
 - *Delivery*

Supply Chain Distribution

- Materials Handling
- Warehousing

Detailed information on this topic: Operations
Management – Albert Porter, BookBoon.com,
2011