

## Quality Control

To ensure finished products adhere to an organization's quality standards while minimizing costs, companies use business intelligence to develop product and component sourcing scenarios. Managers and analysts in manufacturing, procurement and customer service rely on quality reporting to determine if a production run needs to be halted, to determine if a vendor is having increased quality problems, or to identify customers who need to be contacted for a recall. Understanding which products need to be recalled by production time or run, trends in quality and the costs of defects are first-order analyses in quality control. Statistical sampling and analysis on defect rates, proactive alerts sent to production managers when quality thresholds are exceeded, and the ability to track the location of any component in a product in real-time are the functions enabling companies to achieve true competitive advantage.

### Sample Report: Quality Control Metrics by Product and Supplier

Production Summary							
Product	Total 2002 Production	2002 # Defects	Defect Rate	Production Cost/Item	Total \$ Loss on Defect Production	Defective Part ID	Defective Part Vendor
ABC	1,254,648	25,094	2%	\$50.26	\$1,261,208	456	Jones Corp.
DEF	45,789,633	1,373,689	3%	\$25.29	\$34,740,595	123	Smith Corp.
GHI	3,246,323	162,316	5%	\$30.54	\$4,942,527	789	Smith Corp.
<b>TOTALS:</b>	<b>50,290,640</b>	<b>1,561,099</b>	<b>3%</b>		<b>\$40,944,330</b>		

  

Product: DEF Quarterly Defect Summary		Production Run	Units Produced	Defects	Defect Rate
Supplier: Smith Corporation		Run_1	15,263,211	346,578	2.27%
		Run_2	14,195,120	472,598	3.33%
		Run_3	13,582,487	326,798	2.41%
		<b>Totals:</b>	<b>43,040,818</b>	<b>1,145,974</b>	

This report demonstrates a simple quality analysis that highlights the material defect rates and costs to the organization, with details of one of the production runs. With user-defined thresholds, a financial, operations or supplier analyst can perform this type of analysis to see if there are immediate problems that need to be addressed or in preparation for discussions with a vendor on the quality of product supplied. A next level of analysis would be to drill into individual production runs to determine if a particular product run had a statistically significant defect rate, or drill into the details of all products supplied by a particular organization that may be having quality problems.

### COMMON BUSINESS QUESTIONS

- What percentage of product is defective?
- How many of each product had to be discarded for defects?
- What dollar value did the discarded inventory represent?
- What is the standard deviation of quality ratings?
- What suppliers are linked to defective products?
- What are my defect rates compared to this same period last year?
- What is the trend in product quality?

### Key Performance Indicators

- Overall % Defective
- \$ Value of Defective Product
- # of Defects that Reached Customers
- Top 5 Vendors with Components in Recall
- Potential Cost of Recall
- % Change in Quality Year over Year
- Top 10 Vendors with Lowest Defect Rate
- Customer Ranking by # Exchanges
- Top 5 Facilities in Quality Production