

Making Sense of Data



With increasing competition and ever demanding customers, manufacturing continues to face new challenges every day. By applying business intelligence techniques, manufacturing organizations can enhance operational management and realize new savings.

environments normally takes a long time. To speed up the process, many systems use tools that employ summarization techniques to reduce the volume of records by aggregating those with records together with common characteristics. Problem with this technique is its inherent inflexibility and inability to cope with the constantly changing information needs of manufacturing.

One of the biggest challenges for the manufacturing industry is the need to constantly adjust to changes in demand. If managers have a proper understanding of costs and demand, they can make better decisions. Some manufacturers also have customer specific costing, where improved visibility in procure-to-pay is helpful in optimizing the supply-side performance. Other companies with large product portfolios have many suppliers with whom they need to negotiate on cost and quality, and maintain large inventories that need to be

tracked and moved to meet customer demands. Added to this is the need identify customer needs, maintain and improve customer delight, and add new customers to remain in business and be profitable. One solution to these problems is to use business intelligence (BI) solutions.

Applying BI

Some of the areas where BI solutions can be applied in manufacturing include:

- **Inventory optimization:** Manufacturing companies often have huge inventories to track and move. It is essential for them to monitor their inventories to reduce over-capacity, and ensure sufficient supplies. BI allows manufacturing companies to track inventory usage across location and time, monitor inventory costs and profits through multiple layers of information, and identify inventory overage or obsolete or slow moving inventory. In addition, users can set up alerts for instant

While factory floor automation has significantly improved all areas of processing for manufacturing companies, it has also created a staggering amount of data. Despite hardware improvements that have enabled organizations to economically store the increased data, there never seems to be enough time or resources to meet the needs of factory managers who face the “fact gap” that exists between the data and the usable information required to make real business decisions.

This is often because report generation in high data volume

notification of low inventory levels.

- **Financial management:** Manufacturers need to focus on both external profit building and internal cost reductions to improve their profit margins. BI allows manufacturers to analyze

Utility of Business Intelligence
● Increase the value of customer relationships
● Respond quickly to changing markets and company sensitivities
● Accelerate new product time-to-market
● Reduce inventory investment
● Improve planning, scheduling, and the procurement schedule
● Maintain and develop quality assurance
● Select and apply world-class technologies

information across multiple sources to set performance goals and create sophisticated profitability and financial models. Manufacturers can develop budgets that incorporate production, operation, sales, fulfilment, and finance figures for optimal forecasting and planning.

- **Supply Chain and Order**

Management: BI can help deliver deep customer insight into order and inventory data to make better decisions in each stage of the order lifecycle. BI enables users to assess inventory levels, determine likely product fulfilment needs before the order has been booked, quickly identify potential order backlog issues, and stay on top of critical accounts receivable (A/R) and daily sales outstanding (DSO) issues.

- **Procurement and Spend:**

BI enables optimization of supply side performance by integrating data from across the enterprise value chain—thereby enabling executives, managers and frontline employees to make more informed decisions. It increases visibility into the complete procure-to-pay process, including comprehensive spend and procurement analysis, supplier performance analysis, supplier payables analysis and employee expense analysis.

- **Price-Volume Mix Analysis:**

Manufacturing companies must process an immense amount of information regarding the pricing and volume of products. By integrating this massive amount of information through in-depth analysis, BI allows companies to gain insight into budget variances and make better placement decisions for products.

- **Installed base tracking:**

For many manufacturers, keeping track of where their products are installed gives them tremendous opportunities for post-sales services and additional sales. Having adequate and accurate installed base data is essential if manufacturers want to maximize their profits from this revenue source.

BI's comprehensive reporting and monitoring capabilities enable manufacturers to track installed products, as well as the costs and revenues associated with after-sales services to determine the most cost-effective offerings. In addition, users can set up real-time alerts for notification of maintenance schedule requirements to take advantage of additional marketing opportunities.

- **Warranty analysis:** Warranties are one area where manufacturers can greatly reduce costs by ensuring original quality. By analyzing warranty costs, companies can identify possible faulty manufacturing and detect emerging problem areas. Through analysis of warranty claims, manufacturers can reduce and forecast warranty costs and also identify fraudulent claims.

BI can be effective for all types of manufacturing organizations—whether process or discrete—since it can leverage all the sources of data available throughout the manufacturing process to deliver a holistic view. It can help close the fact gap by improving the availability and delivery of actionable data with minimal IT involvement. Manufacturers should carefully consider using BI as a cost effective way to improve operations. ■

Courtesy: MAIA Intelligence