Major applications of business intelligence software in the manufacturing industry
1. Introduction ............................................................................................................................ 2

2. The Manufacturing Industry: Growing Globalization, After-Sales Services, and Knowledge ......................................................................................................................... 2

3. Industry Factors Driving Business Intelligence Solutions at Manufacturing Companies .......................................................................................................................... 3

4. Applying Business Intelligence to the Needs of Manufacturers ............................................................. 4

4.1. Inventory Optimization ................................................................................................... 4

4.2. Financial Management ................................................................................................. 5

4.3. Other Application Areas in the Manufacturing Industry .............................................. 6

5. Manufacturing Organization Snapshots: Sennheiser Electronic, Oakwood Homes, Wilber-Ellis, Amway ........................................................................................................... 7

6. Conclusion ............................................................................................................................ 9
Major applications of business intelligence software in the manufacturing industry

With the increasingly competitive environment in the manufacturing industry and the many challenges the industry currently faces, manufacturing companies need to use all the tools at their disposal to operate more efficiently and increase revenue. Faced with intensifying global competition, manufacturing companies need information management solutions that allow them to make better business decisions.

Manufacturing companies have extensive networks of suppliers and customers, yielding immense amounts of information. It’s hard to keep track of important information and even to know which information is valuable, and manufacturers need the tools to take advantage of the myriad information at their disposal. The information technology available today allows manufacturing companies to make better business decisions and to better target performance goals. MicroStrategy offers the manufacturing industry the business intelligence software to report on, analyze, and monitor the vast networks of data through a business intelligence architecture that helps companies reduce costs, increase revenue, and maximize the value of information.

The Manufacturing Industry: Growing Globalization, After-Sales Services, and Knowledge

Manufacturing companies need to keep up with their constantly changing industry to stay viable and competitive. The increasing globalization within the manufacturing industry offers many benefits to manufacturing companies but also presents them with many new challenges. Increased globalization means that manufacturers must manage a much more diverse pool of suppliers and customers. It also brings immense pressure to keep production costs down as the prices for raw materials change. Additionally, the internationalization of labor means that companies must monitor their operating costs, determining the most efficient combination of internally made and outsourced products to keep labor cost-effective.

The manufacturing industry is also increasingly recognizing after-sales services as a key to growth, allowing companies to differentiate themselves from the competition and generate new revenue sources. This growth, however, puts additional demands on these companies. Providing after-sales services, such as installation, maintenance, repairs, extended warranties, or replacement parts, means that these companies have many more systems and databases to manage as well a growing pool of information to analyze in order to make smart business decisions.

The ease and availability of information to customers is also impacting the manufacturing industry. This benefits buyers, who now have more access to information about product performance and pricing, resulting in increased buyer power. However, increased buyer knowledge tends to decrease the buyer’s perception of differentiation and, consequently, lowers buyer loyalty while raising expectations and demands.

Many manufacturers are looking for ways to transform the way they operate in hopes of combating declining profits and over-capacity and dealing with new technologies, globalization, mergers, and acquisitions. They are reevaluating their strategies and looking for new ways to streamline their processes in order to reduce costs and increase profits. They’re taking advantage of information technology to rework their supply chains, more closely
aligning themselves with their suppliers, distributors, and customers. Many are consolidating their suppliers to increase operational efficiencies and reduce procurement costs. They are outsourcing many functions to focus on and improve those areas in which they are strongest.

Industry Factors Driving Business Intelligence Solutions at Manufacturing Companies

All these challenges require manufacturing companies to be proactive in managing and utilizing corporate data if they want to keep up with or stay ahead of the competition. That's where business intelligence comes in. Business intelligence software gives manufacturing companies the capability to analyze the vast amounts of information they already have to make the best business decisions. The software allows manufacturers to tap into their huge databases and deliver easy-to-comprehend insight to improve business performance and maintain regulatory compliance.

The applications of business intelligence in the manufacturing industry are far-reaching. First, the extensive supply chains involve many different businesses in addition to the manufacturers themselves. Each supplier can benefit from tracking relevant and specific information in the manufacturer's database. MicroStrategy offers a unified Web interface with extranet capabilities, which gives manufacturers an opportunity to grant suppliers access to a secure location where they can utilize MicroStrategy's extensive analytical and reporting capabilities. The suppliers themselves can use the information the manufacturer has designated for them by running easy-to-understand and intuitive reports and analyses.

Across the Manufacturing industry, it is essential to have Business Intelligence software that allows multiple users to easily access the information relevant to them. MicroStrategy's single, user-friendly Web interface and unique analytical capabilities allow different users to manipulate the data to glean the most from the information that affects their decision making.

In addition, manufacturing companies must manage large volumes of data from many sources, including suppliers, distributors, customers, and their own inventory databases. MicroStrategy's unified information architecture allows companies to easily integrate and cross-reference vast amounts of information from multiple sources, identify relationships among the information, and learn how different factors affect each other and the company's bottom line. MicroStrategy's unique drill-anywhere capabilities allow users to perform in-depth analyses through many layers of information.

Finally, manufacturing companies must work to keep costs down while building profits. Business intelligence software allows manufacturers to analyze profit and loss, including product sales analysis, raw materials and supplier outlays and the cost effectiveness of different distributors. Companies can grow revenue by improving sales and customer acquisition and reduce costs by tracking the most cost-effective uses of materials and inventory, as well as improving operational efficiency and overhead costs.

MicroStrategy's business intelligence software offers companies a complete range of services, including marketing and sales analysis, inventory management, operational reporting, profit and loss tracking, performance analysis, and supply chain management. MicroStrategy's unique business intelligence architecture simultaneously accesses all this information, enabling analysis from many sources at once and providing the most thorough and integrated reporting. MicroStrategy then presents this information in user-friendly reports, scorecards, and dashboards and allows users to look at the information in different ways, offering the simplest and most useful ways to analyze the information to get the desired results—business strategies that increase profits.
Applying Business Intelligence to the Needs of Manufacturers

Manufacturing companies can use business intelligence in many ways, creating smart business solutions across the myriad challenges in the manufacturing industry.

INVENTORY OPTIMIZATION

Manufacturing companies have huge inventories to track and move. It’s essential for manufacturers to monitor their inventories to reduce over-capacity and ensure sufficient supplies. MicroStrategy’s in-depth analytical capabilities allow 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 notification of low inventory levels.

Relevant KPIs:
- Average Item Inventory
- Days of Inventory Supply
- Finished Goods on Hand
- Inventory Costs
- Inventory Turns
- Lease Expenses
- Order Fulfillment Lead Time
- Percentage of Backorders
- Sum of Shipment Lead Times
- Work in Progress Costs

SAMPLE REPORT: INVENTORY ANALYSIS | Product: Flying Blue Widget

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Usually, a Manufacturers biggest asset is its inventory on hand of finished product, with arguably its second biggest asset its inventory on hand of replacement, spare, and refurbished parts. Therefore inventory analysis like the one above report is essential for managing costs and allocation. This report would be used to trend and predict future turnover and demand to schedule production as well as forecast sales.
FINANCIAL MANAGEMENT

Manufacturers must focus on both external profit building and internal cost reductions to improve their profit margins. Companies can manage their finances by identifying areas where they can increase profits and improve efficiency. MicroStrategy’s integrated architecture allows manufacturers to analyze information across multiple sources to set performance goals and create sophisticated profitability and financial models. Manufacturers can develop budgets that incorporate production, operation, sales, fulfillment, and finance figures for optimal forecasting and planning.

Relevant KPIs:

- Operating Expense
- Total Sales
- Planning Costs
- Procurement Costs
- Cost of Goods Sold
- Cash-to-Cash Cycle Time
- % POs Invoiced Properly
- Inventory Costs
- Investments
- Raw Material Costs

SAMPLE REPORT:
PRESSURE CURVE VIEW OF MARKET TRENDS

Manufacturing companies are always seeking a competitive advantage through analysis of the financials across the market. Using a pressure curve, like the above example, a manufacturer can assess market trends as they are happening. A pressure curve takes the previous year of data (revenues, costs, etc.) and divides it by the year before that, producing a ratio view of the category that is often very successful in pointing out a trend as it is starting.
Other Application areas in the Manufacturing Industry where Business Intelligence enables enhanced competitive standing:

SUPPLY CHAIN MANAGEMENT
With extensive supply chains, manufacturing companies must manage vast amounts of information to optimize the value of each supplier individually and across the entire network. Business Intelligence software allows manufacturers to evaluate supplier performance on a daily basis to better negotiate prices, ensure timely deliveries, and maintain high standards of quality. In addition, MicroStrategy's in-depth analysis helps manufacturers identify changes in supply and demand and monitor freight costs. MicroStrategy's business intelligence software provides manufacturers with the tools to increase the efficiency and effectiveness of their supply chains.

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, MicroStrategy's business intelligence software allows companies to gain insight into budget variances and make better placement decisions for products.

COST MANAGEMENT
Manufacturers are always looking to increase their profit margins by reducing costs. MicroStrategy's unified information architecture allows in-depth cost analysis across multiple sources so that companies can track material, manufacturing and production costs through multiple layers of information. Companies can also reduce overhead costs by analyzing and monitoring operational efficiency and identifying areas where they can streamline processes and procedures.

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. MicroStrategy'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 and call center data, manufacturers can reduce and forecast warranty costs and also identify fraudulent claims.
**MANUFACTURING ORGANIZATION SNAPSHOTS**

**Improving Business Performance at Sennheiser Electronic**

Sennheiser electronic GmbH & Co. KG selected MicroStrategy to support multiple business intelligence initiatives across its enterprise. Sennheiser electronic GmbH & Co. KG is a worldwide group of companies with more than 1,600 employees and one of the world’s leading manufacturers of complete audio solutions.

Sennheiser electronic GmbH & Co. KG uses MicroStrategy for reporting and analysis of products, sales, and financial performance. With MicroStrategy, Sennheiser electronic GmbH & Co. KG employees in finance, sales, and other areas of the company are able to obtain analytically-based insights to support critical decisions. The information provided from its business intelligence applications is used to help Sennheiser electronic GmbH & Co. KG to increase sales, enhance operations, and improve business performance.

**Employing a Powerful Extranet at Oakwood Homes**

Oakwood Homes, LLC, Colorado’s largest privately held homebuilder, phased out its Crystal Reports environment and expanded its MicroStrategy deployment. Several hundred Oakwood Homes employees across finance, human resources, sales, and building operations receive MicroStrategy-based operational reports daily.

A MicroStrategy-powered extranet environment lets trade partners, lenders, and realtors prepare home buyers for the purchasing and closing of their new homes. These reports enable the lender to gather proper documentation to ensure a more efficient home closing process. Additionally, customer care representatives use MicroStrategy to manage homeowners’ service requests.

“We’re excited about the efficiencies we’re realizing by standardizing on MicroStrategy for enterprise monitoring, reporting, and analysis. In particular, MicroStrategy Report Services is easy to use, feature-complete, and very stable, allowing us to phase out other incumbent reporting products. The professional-looking report presentation results in a standardized and user-friendly reporting environment that we are very happy with.”
**Expanded Financial Reporting at Wilbur-Ellis**

Wilbur-Ellis Company, a leading international marketer and distributor of agricultural and industrial products, expanded its deployment of MicroStrategy for financial reporting.

Wilbur-Ellis uses MicroStrategy for operational reporting and expanded its deployment to include MicroStrategy Report Services for financial reporting and analysis. With MicroStrategy Report Services, Wilbur-Ellis users will have access to key financial information to provide visibility into their financial operations.

“With our multinational marketing and distribution networks, retail centers, and warehouses located throughout North America and the Pacific Rim, we needed a consolidated view of our financial operations. MicroStrategy Report Services will enable us to analyze financial information and share it with key personnel to make data-driven decisions to enhance our financial performance.”

**Improving the Productivity and Retention of Amway’s Millions of Worldwide Independent Business Owners**

Amway Corp., is using MicroStrategy software to improve the productivity and retention of Amway’s millions of worldwide independent business owners (IBOs).

Amway’s business intelligence applications enable end users to offer incentives or information to IBOs that may increase affiliate sales and strengthen the affiliate-IBO relationship. Sales and marketing analysts, for instance, are able to pull up canned reports and perform ad hoc analyses on demographic, sales or activation data. End users can then identify opportunities to promote and cross-sell products that IBOs can utilize to help them enhance productivity and ensure success in their business opportunities.

“The end users within the Amway affiliates who use the MicroStrategy platform are very happy with the software. MicroStrategy’s global presence, its scalable platform and superior architecture were the main reasons we chose the company’s software. MicroStrategy continues to be a leading force in the business intelligence industry.”
**MicroStrategy: The Choice of Leading Manufacturers**

At MicroStrategy, we are fully dedicated to helping manufacturers stay competitive in a challenging industry. We believe that business intelligence properly applied to corporate data provides manufacturing companies with the insight they need to increase revenue, reduce costs, and comply with industry regulations and standards.

Today, seven of the top ten global manufacturing companies rely on MicroStrategy’s business intelligence architecture for their reporting, analysis, and monitoring of corporate data. MicroStrategy’s integrated architecture offers manufacturing companies far-reaching opportunities for ever-expanding business intelligence. Whether starting with one or several applications, manufacturers can evolve to utilize MicroStrategy’s unique capabilities: a unified Web interface with extranet capabilities, access for thousands of users, reporting and analysis of tremendous amounts of data across multiple sources, graphical dashboards and boardroom-quality reports, and unconstrained analytical flexibility.

With the increasing challenges the manufacturing industry is facing, manufacturers need to stay one step ahead of the competition. MicroStrategy equips companies with the tools they need to make the best use of the vast amounts of information available to them, allowing them to operate more efficiently and increase revenue. At MicroStrategy, we are committed to helping your company increase its competitive advantage by devising smart business solutions and making better business decisions every day.