Boosting Manufacturing Excellence

The global competition forces manufacturing companies to enhance their productivity without compromising on the quality. For this, companies need to utilise their resources effectively. Here is where manufacturing resource planning has a vital role to play in enabling efficient management of all resources in a company, thereby boosting the total output.

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Effective resource planning with excellent scheduling is important for manufacturing companies in the current scenario. It can lead to significant gains in productivity, higher inventory turns, better customer service and a greater reduction in material costs. Manufacturing resource planning (MRP) is a kind of a master plan that includes all resources of a manufacturing company.

MRP Defined
The Association for Operations Management (APICS) defines the term as ‘a method for the effective planning of all resources of a manufacturing company’. Ideally, it addresses operational planning in units, finance management and forecasting, business & production planning, master scheduling, material & capacity requirement planning, job costing, order processing, shop floor control, time & attendance, performance measurement and sales planning. The output data from business & production planning, master scheduling, material & capacity requirement planning are integrated with financial reports such as business plans, purchase commitment reports, shipping budgets, inventory projection in dollars, etc.

Simply put, the whole task of manufacturing resource planning involves the co-ordination of materials, equipment, finance, and human relations. R Balaji, Practice Head – Manufacturing & Infrastructure, Ramco Systems, elaborates, “Manufacturing resource planning is a combination of people skills, dedication to database accuracy and computer resources. It is now seen as a total company management concept for the productive use of human resources. Manufacturing resource planning sets the platform for ensuring consistency of data to all players in the manufacturing process, as a product moves through the production line.”

Many companies worldwide have attempted to implement MRP II and are now using it with increased satisfaction. “In general, MRP II functions can be grouped into three macro elements, namely top management planning, operations planning and execution.” explains Balaji.

The key to successful implementation of manufacturing resource planning lies in the understanding & training of people and ensuring data accuracy. “There is no doubt that manufacturing resource planning is an
PLEthora OF SOLUTIONS

There is a wide variety of MRP solutions available in the market today. The range varies from off-the-shelf products to completely customised solutions. Balaji explains, “These solutions can also differ based on the target market depending on the size of the business (small, medium, or large). The vendors also offer different options of delivery ranging from on-premise and a hosted model to a complete SaaS model. SaaS is now beginning to gain popularity in the SMB segment. From an on-premise perspective, the solution can be installed on a centralised server or be distributed across modular hardware and software units that provide ‘services’ and communicate on a local area network.”

Providing further insights, Das states, “Companies should opt for customised products or should modify the solutions depending on their requirements. The impact of effective resource planning solutions on a company’s business process, its ability to adapt to change, and the manner in which it is to be implemented are the factors that help a company decide on this issue.”

Customised packages will be helpful to a company when it is designed in consultation with the in-house people. However, this is not equally free from limitations. It can play havoc in due course, because the customisations can defeat the functioning and objective of the resource planning process. Readymade packages require the company to adjust to the business process. The company experiences a paradigm shift in the way it transacts business.

ENHANCING PRODUCTIVITY

Effective manufacturing resource planning will help to increase the efficiency and quality of the manufacturing process. It reduces the complexities in the communication network, and thereby lower the chances of mistakes. It also enhances the productivity of a company in several ways.

The key benefits that are derived include integrated financial information & customer order information, standardised and faster manufacturing process, improved scheduling resulting in better planning and accurate prediction of delivery times, better control of inventories, accurate inventory management and control at every stage of production & accurate costing at every stage of the manufacturing process.

Better resource planning will also help manufacturing companies to better utilise the manufacturing facilities and reduce working capital for inventory. Experts believe that resource planning will enable faster response to changing conditions and will enhance the flexibility with improved design control and better quality control. It will also ensure improved relationships with suppliers and improved cash flow through quicker deliveries.

Another major advantage includes greater levels of information flow, along with a higher quality of information. “We are living in the information age. Hence, the accuracy and quality of data is critical for any company, especially in the manufacturing domain. Companies must be able to rapidly transfer information from one place to another. Also, when information is transferred quickly and efficiently, the organisation will be able to act on the data within a short period of time,” says Das.

Moreover, resource planning can greatly improve the logistics of a company by making production planning more efficient, as well as by controlling the costs involved with materials and inventory. “The manufacturing process experiences a slump often because of miscommunication or lack of communication. Resource planning solves these issues by co-ordinating the actions of supply chains, warehouses and logistics service providers. It also helps in tracking down the status of the product,” informs Balaji.

Such a planning is also useful when it comes to processing orders, because the process becomes automated and the status of order can be tracked and analysed. Effective resource planning also helps in maintaining records of goods moved into warehouses and it will also help in moving products through the warehouse.

GAINING AN EDGE

As the global competition increases, especially in the manufacturing sector, effective manufacturing resource planning helps companies to excel. However, the companies must choose the solutions specific to their needs and should be willing to adopt new changes.

Understanding the increasing need of the industry, the solution providers are also coming up with improved and customised solutions tailored to specific needs. The improved solutions will help the companies to plan their business effectively and to use the resources efficiently.

Overall, efficient and effective resource planning will help the manufacturing companies to gain an edge in the marketplace and outperform in the competitive business.