

Manufacturing and production enterprises

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Manufacturing and Production Enterprises affiliation Manufacturing and Production Enterprises Introduction Over the past three decades, the United States manufacturing arena faced numerous challenges that lead to loss of its competitive edge in the sector. It was clear that foreign competition had stiffened leaving these firms with no alternative other than rethinking of their manufacturing strategies. American manufacturing industries such as automobiles, electronics, PCs and equipment's have emerged with integrated automated process technologies to remain competitive. Through research and close analysis of each manufacturing process, companies have come up with ways to improve quality, reduce costs, reduce variation, speed up time to market and reduce waste (Markert & Backer, 2009).

CIM is the core avenue towards realization of success in U. S manufacturing. It involves integration of all components that are essential in production process and is a unifying factor of basic functional areas of manufacturing firms. It integrates design, production and management ensuring effective and quality production (Markert & Backer, 2009). Obstacles preventing high velocity in production such as complex setups, poor physical flow, excess material handling and interruptions in production process have been resolved by adopting lean manufacturing. Lean manufacturing simultaneously integrates the various aspects of product design, development and production. Just -in-time (JIT) has facilitated reduction of cost, production of high quality products and on-time production through, minimization of idle facilities, equipment's or workers. Its main emphasis is having the right part, at right time, in the right quantities in manufacturing area (Markert & Backer, 2009).

Many organizations have also undergone restructuring to reduce managerial layers and increase profits. This has put more decision making and responsibilities to line managers and the assembly line workers. Companies are adopting supply- chain management, which makes significant changes in the way a particular product is produced. As a result, dependence on external suppliers and outsourcing has increased helping organizations manage inventory and maximize production (Markert & Backer, 2009). Organizations have been struggling with cost especially the cost of material handling. Material requirement planning (MRP) is one technique that helps firm plan future purchase orders and production lots according to the required material to complete a production schedule.

Intensive global competition is a key driver of the ongoing trend of strategic implementation of technologies in manufacturing. Alongside this strategy, need for management of quality and productivity has emerged among major business strategies (Markert & Backer, 2009). Without well-structured strategies, survival in this competitive environment would be difficult.

Consumer education has also intensified leading to more awareness of quality. Quality control, standards have intensified with more focus on the process control of individual operations and their role in manufacturing as opposed to product control driven assurance (Markert & Backer, 2009).

Consumer concerns on global warming and related environmental issues have forced businesses to take steps at developing processes that keep the environment safe.

Conclusion

Manufacturing is moving toward an era of great deal of customization. With

most organizations having adopted lean manufacturing and JIT, which have seen integration of vital aspects of manufacturing process, companies are realizing that they can customize products in quantities of one, and churn them out at mass production speeds (Markert & Backer, 2009). Rapid prototyping and cellular manufacturing provide the foundation to this new developing approach to manufacturing. With new collection of intelligent machines that can anticipate breakdown and repair themselves and the renovation of robots, automation is really advancing in manufacturing. Organizations are also being more cautious when it comes to investing in large- scale automated technologies. The future of manufacturing is highly dependent of technological advancements and it is up to individual companies to choose on the mix to use in their production process to remain competitive.

References

Markert, L. R., & Backer, P. R. (2009). *Contemporary Technology: Innovations, Issues, and Perspectives* (5th ed.). New York: Goodheart-Willcox Publisher.