

# Analyzing the Need of Agile Manufacturing in Industries

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## ABSTRACT

Agile manufacturing deals with speed with which change in customer's demand can be met. Nowadays, customers are aware of change in technology and want to get products at competitive costs. Industries are struggling for optimizing the cost and using their resources fully in order to survive in the market.

**Keywords :** Agile manufacturing (AM), Competition.

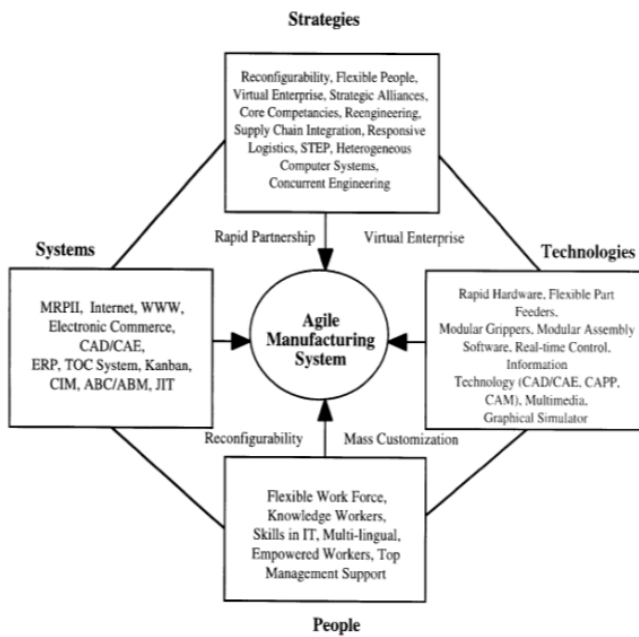
## I. INTRODUCTION

Customer's demands are changing very quickly in the recent scenario. It has become mandatory for the industries to produce quality products at economic cost. [1], Agile manufacturing can be defined as the capability of surviving and prospering in a competitive environment of continuous and unpredictable change by reacting quickly and effectively to changing markets, driven by customer-designed products and services. Agile manufacturing is concerned about adopting newer and more efficient methods of producing the product. [2-7], the strategies of agile manufacturing includes virtual enterprise, Technologies like Computer Aided Design (CAD), Computer Aided Manufacturing (CAM), Rapid Prototyping etc., Concurrent Engineering (CE), Information Technologies tools. For the system to be agile, the manufacturing system is required to be equipped with advanced manufacturing facilities like Electric Discharge Machining (EDM), Electrochemical Machining (ECM), Abrasive Jet Machining (AJM), Ultrasonic Machining (USM).

## II. Literature Review

There are significant results by the industries who are using above said techniques. [2], propose a framework for production control in an AM environment in which: (1) information is modeled in a hierarchical fashion using Object Oriented Methodology (OOM); (2) information transactions are specified by the workflow

hierarchy consisting of partner workflows; (3) information flow between partners is controlled by a set of distributed Workflow Managers (WM) interacting with partner knowledge bases, which reflect partner specific information control rules on internal data exchange, as well as inter-partner mutual protocols for joint partner communications; and (4) the prototype system is accomplished using the World Wide Web based on a client server architecture. Systems such as ERP, EDI and EC can be employed for operations control activities of AM enterprises after making appropriate modifications to those systems with the objective to incorporate the system specific characteristics of AM. [8], highlights the role of employee empowerment in improving the co-operative supported work in a physically distributed VE enterprises. Top management is required to cooperate fully the employees so that they can work better and come out with better solution of the problem. Employees in the industry are normally reluctant to change and want to stick to their older schedules. The employee's needs to be motivated and trained time to time so that they actively participate in various programs organized within and outside the industry. Customer's also help in improving the quality of products by providing proper feedback to the manufacturers. Inter-personal skills also takes place an important role in making the industry successful. Nobody is perfect in each and every field, so in industry, they require cooperation from their colleagues. persons working in the industry should cooperate each other for better solution.



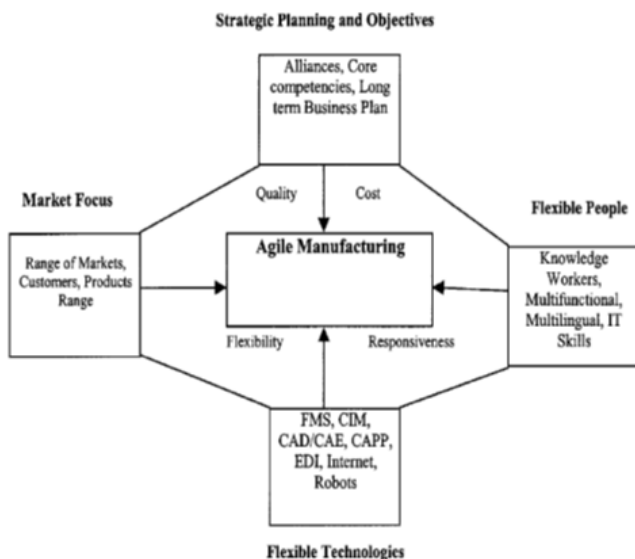
**Figure 1:** Development of agile manufacturing system [8]

### III. CONCLUSION

In the recent scenario, market is excessively competitive. Today, the industries are using Enterprise Resource Planning (ERP), Just in Time (JIT) etc. The development of agile manufacturing system has been shown in figure 1. The main components of development of agile manufacturing system are strategies, system, technologies and people.

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**Figure 2 :** Agile manufacturing paradigm [8]

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