

Agile Manufacturing System: An Introduction

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Abstract:

In previous centuries, mass manufacturers were very much reliant on an invention industry to produce new products, and invention industries were often reliant on mass manufacturers to offer a ready market for their highly distinguished conceptions. This cooperation between mass manufacturers and inventions industry worked very well for an elongated time. But in today's competitive scenario there is need to satisfy the customer demand on time. This can be completes by Agile manufacturing system. In this paper, a brief overview of Agile manufacturing system have been provided.

Keywords: Agile Manufacturing System, Agility, Demand, Customer, Satisfaction

1. INTRODUCTION

In today's competitive scenario and rapid development of global marketplace, there is always a requirement of newer and updated manufacturing system. These updating manufacturing systems escalate the feasibility of manufacturer to move ahead in modern market (Yusuf and Adeleye, 2002). With this there is an improvement in relationship between customer and manufacturer which create a good bonding between each other. Agile manufacturing system comes as an option for twenty first century manufacturing system (Ramesh and Devadasan, 2007). This AMS covers the response of the customer on priority basis. AMS is an innovation above additional industrial system such as cellular manufacturing systems, lean manufacturing systems and flexible manufacturing systems (Song and Nagi, 1997).

2. LITERATURE SURVEY

Even though many Indian industries are still under the stage of lean manufacturing system. So, there is an urgent need to switch from lean manufacturing systems, flexible manufacturing systems to AMS.

Moradlou and Asadi, (2015) showed that in the innovative and developing AMS standard, where numerous organizations collaborate under mass customization, in which there is need of a technique which can manage the data flow between cooperating organizations. Due to this need they show that information technology integration is needed at every step of an organization.

Al Samman, (2014) have identified the agile manufacturing system drivers and deliberated on the collection of benefits that have appeared eventually as an effect of altering necessities of engineering procedures. The leading driving force of agile manufacturing system is variation. These changes are resultant of automation and cost consideration of manufacturing, widening of customers selection and expectancy, challenging significances, integrity & proactivity and attaining industrial prerequisite in cooperation. Current study also reveals the attribute of agile system which covers competence, technology, quality, partnerships, market and welfare by various means and attributes.

Pan and Nagi, (2013) according to author as we move toward the 21st century, success and survival in today's competitive scenario are more and more difficult. The ability to provenance of this competitiveness started from one basic term i.e. "change". The prominence is now ability to adapt to variations in the occupational situation and on market and consumer requirements. The emergent pattern is AMS which includes replying to variations and captivating benefit of variations over planned application of management and industrial approaches.

Frayret et al., (2001) presents a planned structure for manipulative and functioning AMS. This outline permits integrated preparation, regulation and handling of all processes and eventualities in an active situation. This fragment encapsulates the administrative and cooperation policy. It contains of an active occupational technique to establish and activate industrial actions over the conformation, beginning and process of a dispersed system of answerable industrial hubs. Following, the thoughts primary to this premeditated outline as well as the methodological suggestions of such methodology, are demonstrated, and by means of a thorough case study stimulated by industrial partner of a motor coach.

3. AGILITY

The term "Agility" is demarcated as the capability of an organization to quickly reply to transformation in marketplace and consumers' request. Since its commencement, the conception of agility has grown manifold amongst organization and academicians

persons. Agility term is defined by different researchers as shown in table 1.1.

Table 1.1: Agility definitions by different researchers

Sr. No.	Researchers	Definition of Agility
1	Moradlou and Asadi, 2015	It is able to provide customer satisfaction, always prepared for market change, appreciating humanoid information and services, and founding virtual enterprise.
2	Al Samman, 2014	It is an aptitude to yield an extensive variety of short price; extraordinary excellence produces with diminutive principal periods in unpredictable portion dimensions, ready to make a product according to customer demand.
3	Pan and Nagi, 2013	It creates boundary in between organization and the marketplace. AMS behave as a leader to develop affordability and the professional predictions.
4	Shankarmani <i>et al.</i> , 2012	It is ready to respond the immediate changes in volumes and variability demand.
5	Carvalho <i>et al.</i> , 2011	It defined as with marketplace acquaintance and simulated organization to adventure commercial prospects in an unpredictable marketplace.
6	Mafakheri <i>et al.</i> , 2008	It suggests efficiently assimilating flexible manufacturing system and lean manufacturing system.
7	Hasan <i>et al.</i> , 2007	It is consider all term like consumer approachability and marketplace instability and necessitates precise competences.
8	Hopp and Oyen, 2004	It is an aptitude to have reflectiveness of request, rapid reply and corresponding processes.
9	Yusuf <i>et al.</i> , 2004	It defines as to produce advanced product and unbalanced request.

The central dynamic power behind agility is variation (Shankarmani *et al.*, 2012). The quantity of variations and their category, provisions or distinguishing cannot be simply resolute and are perhaps unspecified. To assist executives in attaining enhanced agility, there have been abundant studies devoted to calculate the agility of an organization (Carvalho *et al.*, 2011).

4. CONCLUSION

Afterwards the discussion it is considerably clear that the furthestmost researchers have described the agile manufacturing system as theory based system; which are very problematic to be processed by industry experts. Many methodological problems related with agile manufacturing system execution are felt in today's competitive scenario and these technical difficulties decelerated the progress of AMS implementation. The execution process of AMS is very challenging task. The whole thing concerning its execution as well as its usage is not as simple as have been described in many research papers. The finest way of refereeing the possibility of AMS is organized knowledge about its industrialized viability.

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