



A Perspective on Multi-Dimensional Synergetic Approach for Environmental Issues in Manufacturing

Sandeep Handa¹, Tilak Raj²

¹(Department of Production Engineering, G.B. Pant Institute of Technology, New Delhi, India)

²(Department of Mechanical Engineering, YMCAUST, Faridabad, India)

handasandeep@yahoo.com

Abstract : Over the years, the uninhibited exploitation of exhaustible resources and scant respect for environmental protection has threatened the very existence of different species and ecosystems. To mitigate this problem, coalescing manufacturing activities needs with environment protection has become crucial. The businesses today are under intense pressure by the various stakeholders to adopt a greener manufacturing system. This paper highlights the various issues in adopting green manufacturing.

Keywords: synergetic approach, Manufacturing, Green Products, Cooperate Strategy, Managerial competency

I. INTRODUCTION

Green manufacturing systems envisages establishment of a cross-functional manufacturing methodology which aims to mitigate the impact on environment without undermining the competitiveness of organization. It does by streamlining manufacturing processes, adopting resource reduction techniques and using environmentally responsive products. In spite of the fact that green manufacturing systems have a numerous advantages for organizations, their implementation is marred by a large number of pitfalls and entails incurring enormous amount of risks. This study is motivated by a need to identify and evaluate the paramount issues, which can act as a framework for the successful implementation of green manufacturing.

Numerous studies have identified different issues responsible for successful adoption of green manufacturing. These are described below:

Managerial competency- Sound management processes ensure that green manufacturing efforts are adopted in the most effective manner. The most important managerial practices that directly enable green manufacturing implementation are support and commitment of the upper echelons of management, championship, sponsorship and effective management of risks [1]. Managerial Leadership has to be effective, strong and creative in thinking in order to provide a clear vision of for the paths that needs to be chartered for green manufacturing. The top management should display sufficient authority, entrepreneurship knowledge, and maintain open communication with all the stakeholders involved in implementation of green manufacturing are important [3]

Policy Initiatives of government- Compliance with various international and national environmental laws and standards is mandatory for any business to operate Environmental regulators use these to ensure and incentivize innovative green

technologies by manufacturing organization. Legal requirements are considered as the most significant external influence on the strategy formulations in the organizations. Government regulatory and policy initiatives are encouraging manufacture companies to reduce their environmental impact. **Consumers pull for greener products-** Green manufacturing is imperative, not just due to tightening regulations or cost benefits, but also because consumers are demanding it. Consumers are becoming increasingly conversant with environmental issues and are adopting Green products. The continuing expansion of Green Consciousness around the world presents a huge opportunity for smart companies. Consumers greatly value the direct benefits that Green products offer, such as – superior freshness and taste, the promise of safety and health, and savings on energy costs. Businesses also resort to change customers' choices towards products which are environmentally compatible, redesign their marketing strategies to include such choices, reorganize the company delivery system to enable them to meet challenges. Companies that proactively incorporate environmental goals into their business practices and strategic plans enjoy a competitive advantage.

Business Ethics /cooperate strategy- Corporate strategy determines objectives and guidance on how organizational capabilities can be best harnessed to gain competitive superiority green manufacturing strategy, accordingly, guides the alteration of tasks and flows into integrated processes, and variance in how tasks are performed and the flow of material, people, and information becomes a source of competitiveness. Therefore, a consideration of the strategic context of growth and expansion, creating a top-level strategy to guide change, and careful alignment of corporate strategy with green manufacturing strategy, are crucial to the success of green manufacturing efforts.

Adapt Human resources- Adapt human resource management which involves all human- and social-related changes and cultural adjustment techniques needed by management to facilitate the insertion of newly-designed processes and structures into working practice and to deal effectively with employee resistance, is considered by many researchers to be a crucial components of any green manufacturing efforts. Revision of reward systems, communication, empowerment, people involvement, training and education, creating a culture for change, and stimulating receptivity of the organization to change are the most important factors of human resource development in organization opting for green manufacturing. Effective communication is considered a major key to successful green manufacturing related change efforts. Empowerment of both individuals and teams becomes a critical factor for adopting green manufacturing.

Technical innovations- Chen 2008 highlights proportionally relationship between manufacturing practices and green innovation. Green innovation in production requires manufacturers to take actions for planning and managing the work regarding the minimization of environmental impacts related to the innovation function. Green innovation as a way of innovation is mainly focused on improving the efficiency of resources usage and protecting the environment. Eco-innovation and its environmental benefits go beyond the conventional organizational boundaries. Dechant and Altman (1994) identified the best practices of firms that were successful at managing environmental issues and identified common practices. The authors emphasize that in order to manage change better, it is necessary to conduct assessments of environmental projects, manage human resources; ensure that employees share the common vision and are empowered to act on it.

Commitment of Financial Resources- - The purpose of green manufacturing implementation is to improve the value of the company through risk reduction, revenue enhancement and cost reduction. The availability of economic instruments and their judicious use is vital, to increase the overall efficiency of implementing green manufacturing. Organization can use a variety of economic instruments like taxes breaks, subsidies etc available to them for lowering the cost of undertaking new green manufacturing operations.

Availability of green supply chain management- The setting up of a system of green supply chain management forms the essential framework of starting any green manufacturing activities. Green supply chain management systems are conceived to take into consideration environmental aspects in procurement function. There is a need for environmental collaboration with vendors, environmental monitoring upon suppliers, environmental collaboration with customers, environmental monitoring by customers and the selection of environmental technologies. Green supply chain management impact on relationship conditions existing between a customer and its suppliers were highlighted by Simpson D (2007).

II. CONCLUSION

For Green Manufacturing to succeed an integrated approach to the management of people and resources is required. In order

to comply with the stringent regulatory framework, the top management should provide a clear vision and commitment for green manufacturing. Business adopt green manufacturing as a tool for gaining market share. Switching over to green manufacturing requires that adequate training should be provide to the employees to make them resilient for adjusting in new manufacturing eco-system. Business utilizes the various financial instruments which are specially provided incentive for setting up green manufacturing units. It is essential need that business collaborate with their vender in order to set up a green supply chain management system. All these factors have a pivotal role in facilitating the efforts and smoother insertion of green manufacturing practices. By using a synergetic approach it is possible built up a manufacturing ecosystem which is environmentally benign.

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