

Green Concept: A Case Study on Manufacturing Firm

Swapnil V. Ghinmine*, Prof. D. I. Sangotra**, M. A. Gaodi***

*Lecturer. Dept. of Mechanical engineering, DMIETR, Sawangi (M), Wardha ,Maharashtra, India.

**Associate Prof. Dept. of Mechanical Engineering, Y.C.C.E., Wanadongri, Nagpur, Maharashtra, India.

***Assistant Prof. Dept. of Mechanical engineering, DMIETR, Sawangi (M), Wardha ,Maharashtra, India.

Abstract - The Aim of the study is to look after the green concept factors which helps to achieve the economic stability. By adopting the green concept strategies the manufacturing sector helps in the increase of environmental performance. The present study includes questionnaire survey and advice from the industrial experts about the green concept. The result categories the green concept in 8 factors. Policies related to the Environment, Top Management Commitment, Green Manufacturing, Green Design, Green Purchasing, Customer Awareness Program, Green Distribution, Training and Employee Involvement. The data was analyzed on the basis of mean score. The result shows that factors which has less mean score should be provided more stress for the implementation of green concept in the manufacturing industry.

Keywords: Green Concept, Green Manufacturing, Green Design, Green Distribution.

INTRODUCTION

Today there is increasing pressure for almost every manufacturer to go "green". Green concept in manufacturing is defined as the creation of manufactured products that use processes that are non-polluting, conserve energy and natural resources, and are economically sound and safe for employees, communities, and consumers. Green manufacturing is also called as sustainable manufacturing. Going green in manufacturing includes the manufacturing of "sustainable" products and the sustainable manufacturing of all products. It includes manufacturing of renewable energy, energy efficiency, green building, and other "green" & social equity-related products.

The past decade of rapid economic growth has brought many benefits to India, the environment has suffered, exposing the population serious air and water pollution. A new report finds that environmental degradation costs India \$80 billion per year or 5.7% of its economy. . Green concept strategies are needed promote sustainable growth and to break the pattern of environmental degradation and natural resource depletion. Emission reductions can be achieved with minimal cost to GDP.

ISO 14001, the environmental management systems (EMS) standard is a good start for green concept. It contains requirements for the prevention of pollution and for continual improvement. That means it should act as a foundation for environmental performance enhancement and Green manufacturing is a natural extension of EMS. Each aspect of the MMT Green Manufacturing program is fully compatible with ISO 14001.

LITERATURE SURVEY

Only little amount of work has been done on green concept in manufacturing. A lot amount of work is still under process. Many researchers has proposed there work on green concept. Kshitij Dashore, Dr. Nagendra Sohani 2013[1] various barriers and drivers of Green Supply Chain Management (GSCM) were identified based upon the GSM literature and on consultations with experts in the academics. The barriers that were identified are eco design, green manufacturing, green distribution, green packaging, Hence to overcome the difficulties and for proper implementation of GSCM in the organization proper attention must be paid to these barriers and drivers. Walton et al. (1998) [4] identified several ways through which the impact of green procurement has on the environment. Quinghu Zhu et al (2008) [6] has given the concept of different factors like Green Procurement, , Customer Cooperation, Internal Environmental Management, Eco Design, and Investment Recovery. Lamming and Hampson (1996) [7] linked the concept of supply chain management practices with environmentally sound

Management practices like environmental procurement policy and working with

Suppliers to enable improvements, collaborative supply strategies, vendor assessment. Handfield et al. (2002) [4] has proposed a multi attribute decision making model to identify and measure several environmental practices of suppliers. Zhu et al.,(2005, 2007); Ninlawan et al.,(2010) [8] conducted a case study on green supply chain management practices in Chinese automobile industries and Thailand electronics industries. They observed that increasing pressure on employee with the help of top management commitment can improve the environmental performance and lead to economic stability.

OBJECTIVE OF STUDY

To look for the various eco drivers that were practicing in the industry and their implementation in the manufacturing industries.

METHODOLOGY:

Research methodology consist of developing the benchmarking questionnaire and to conduct a case study based on these questionnaire. Case study consist of discussing the various factors of green concept in manufacturing industry with industrial expert who have the fair knowledge and judgment of the green concept. Research methodology consist of 8 eco factors which helps manufacturing industry to achieve the green sustainability. Performance of each of the green strategy will depends on the aggregate score. The company responded to the survey and was marked on the five point scale (1- good, 2- average, 3- better, 4- important, 5 – best) to the extent which they were practicing. These green concept factors helps industries to evaluate their strength and weakness and helps the industries for the implementation of the green supply chain management.

CASE STUDY:

Case study was conducted on the manufacturing industry which mainly manufacture fasteners for the transmission lines. According to the general practices followed in the industry following factors has been observed in the industry.

1] Green Purchasing (Average mean score 1.792)

Green purchasing is nothing but environmental friendly purchasing which helps in reducing harm to the environment. It can be helpful if we give more stress on the following points 1] paperless work. 2] Transportation. 3] Vendor identification. 4] Appreciation of ecofriendly vendors. For establishing Green Purchasing materials and spares part purchasing department should actively guides suppliers of chemicals oils, construction materials, and packaging materials.

2] Policies related to the Environment (Average mean score 1.253)

Reduce environmental risk through operating practicing and emergency preparedness program. Encouragement of recycling, recovery and reuse of residual materials as well as the reduction and prevention of emission and release to the extent demonstrated feasible.

3] Green Design (Average mean score 1.960)

Green design is a plan which has a goal to minimize the use of recyclable materials that clog landfills and replacing them with materials that are reusable.

Green Design is also called as sustainable designer environmental design, environmentally sustainable design or environmentally conscious design. The steel that was used in the industry contains 93.3 % recycled scrap steel. This steel is recycled back into new steel product with no loss of its physical properties. This steel is not just recycled but multicycled as it can be recycled over and over again.

4] Green Manufacturing (Average mean score 1.385)

Green Manufacturing is the process which constantly focuses on the reduction of the waste materials

For this purpose Industry has implemented JIT manufacturing in there process , which gives prime focus on the reduction of the waste materials and produce products at minimum cost with more stress on green manufacturing.

The scrap material that was collected during the manufacturing process was sent to the SMS (Steel Melting Shop) where it is again casted into steel slabs.

5] Green Distribution (Average mean score 1.472)

Green Distribution consist of green packaging. Packaging characteristics of the materials such as size, shape and materials have an impact on distribution because they affect the transportation characteristics of the product.

For packaging the fasteners gunny bags were used instead of using the plastic or steel containers. These gunny bags are recyclable and can be used again and again.

6] Training and Employee Involvement. (Average mean score 1.395)

Industry ask employee and workers to form quality circles which will focus on problem solving driven by ecofriendly measures thereby making them more aware about green concept. Seminar session are arranged for the workers and senior managers from the other industries are welcomed to give them training on green practices.

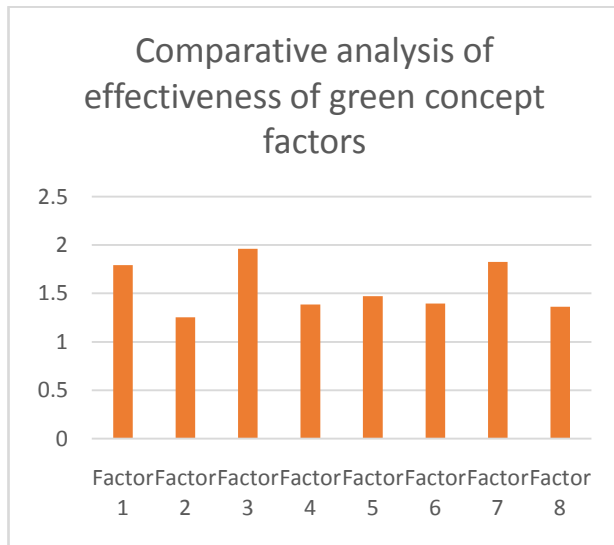
7] Customers Awareness Program. (Average mean score 1.826)

Customer meetings is carried out for green purposes also interaction and feedback from customers is taken on green product to create awareness about green concept and green manufacturing.

8] Top management commitment. (Average mean score 1.364)

Top management commitment support long term green practices process. It provides support for green concept over long budget scheduled. It also monitors the processes that were practicing in the industry.

COMPARATIVE ANALYSIS OF EFFECTIVENESS OF GREEN CONCEPT FACTORS.



While analyzing the green concept factors the most important factor is Green design which has the greatest impact on the green concept or green supply chain management. Green design has the mean score of (1.960) followed by Customer awareness programme (1.862) Green purchasing (1.792) Green Distribution (1.472) Training and Employee Involvement (1.395) Green manufacturing (1.385) Top management commitment (1.364) Environmental policy (1.253). Therefore from management point of view more stress should be given on less mean value factors.

CONCLUSION

Present research says that there are 8 green concept factors for the implementation of green supply chain management in the manufacturing industry. Green concept is relatively a new concept in the Indian manufacturing industries. These green concept factors should be implemented in the industries. It develops the relationship between green concepts and the environmental performance. This study also focus that if the Earth has to keep green appropriate strategy has to be adopted and should be implemented in the industry. This will minimize the detrimental effect on the environmental and will helps us to save the environment. By adopting these strategies it will helps us to conserve the the environment.

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