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IMPLEMENTATION OF GREENLOGISTICS FOR SUSTAINABLE DEVELOPMENT IN SMEs

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ABSTRACT

In today's highly competitive environment, green logistics issues are gaining high attention. Since it is an important part of supply chain management and plays an important role in the improvement of transport system. Logistics facilitates in getting products and services as and when they are needed and desired to the customer. It serves as a major enabler of growth of trade and commerce in an economy because it is helpful in economic transactions. The American Council of Logistics Management defines logistics as "the process of planning, implementing and controlling the efficient, cost effective flow and storage of raw materials, in-process inventory, finished goods and related information from point of origin to point of consumption for the purpose of meeting the customer's requirements. Contemporary technological developments have improved the cost, efficiency and reliability of freight and passenger transport systems. At the same time, the negative environmental impacts of transportation have gained wide recognition and are at the core of issues of sustainability, especially in urban areas. Since the applications of logistics are generally positive for the efficiency of transport systems, it has been suggested that logistics should be environmentally friendly, thus the concept of "green logistics". This paper will investigate the issue of green logistics and the environmental impacts it creates. This paper analyses how logistics managers could lead the initiative in this area by incorporating environmental management principles in to their daily decision-making process so that sustainable development could be achieved.

Keywords:Green logistics ,SMEs ,sustainable development

I.INTRODUCTION

In today's highly competitive environment, green logistics issues are gaining high attention. Since it is an important part of supply chain management and plays an important role in the improvement of transport system. Logistics facilitates in getting products and services as and when they are needed and desired to the customer. It serves as a major enabler of growth of trade and commerce in an economy because it is helpful in economic transactions. The American Council of Logistics Management defines logistics as "the process of planning, implementing and controlling the efficient, cost effective flow and storage of raw materials, in-process inventory, finished goods and related information from point of origin to point of consumption for the purpose of meeting the customer's requirements. Contemporary technological development have improved the cost, efficiency and reliability of freight and passenger transport systems. At the same time, the negative environmental impacts of transportation have gained wide recognition and are at the core of issues of sustainability, especially in urban areas. Since the applications of logistics are generally positive for the efficiency of transport systems, it has been suggested that logistics should be environmentally friendly, thus the concept of "green logistics". This paper will investigate the issue of green logistics and the development could be achieved. Environmental impacts it creates. This paper analyses how logistics managers could lead the initiative in this area by incorporating environmental management principles in to their daily, decision-making process so that sustainable.

Statement of the problem

This study is designed to examine the viability of SMEs in moving towards green logistics. This results for the SME employees to do their work effectively. Through this study, the employee will get to know the investment, turnover, and workforce of green logistics. It is therefore important to find out the impact of green logistics in supply chain. All the same, to achieve environmental performance the outbound logistics adopted by SMEs must be significantly enhanced.

Objective of the study

- To understand the viability of SMEs in moving towards green logistics.
- Green logistics by SMEs in production.
- Greening the outbound logistics of the supply chain.

Research Methodology

Research is the process of systematic and in-depth study or search for any particular topic, subject or area of investigation, backed by collection, compilation, presentation and interpretation of relevant details or data.

Research Design

Descriptive research study has been used, it involves survey and fact finding enquiries if different kinds, the purpose of descriptive research are the descriptive of state of affairs, as it exist at present.

Population and Sample Size of the Study

The sample would be obtained from the employees. The researcher selected 150 respondents as the sample size.

Sampling Technique

The researcher has used convenience random sampling method for this study. A convenience sample is a non-probability sampling method where a sample is taken from the employees.

Sources of Data Collection

Data collection is one of the most important aspects of research. The study used primary data and secondary data.

Primary Data

The researcher used well-structured questionnaires, which contained open ended and closed ended questions. The researcher personally went to collect data from the respondents.

Secondary Data

Secondary data means that are already available i.e., they refers to the data which has already been collected and analyzed by someone else. The secondary data for the study was collected from books, company websites, magazines and other sources.

Statistical Tools Used For Analysis

The data collection are classified, analyzed and calculated. The statistical tools applied by the researcher for the analysis of the data are Chi-square test, T-test, ANOVA, Weighted average method.

Scope of the Study

This study will focus on the employees in SMEs. This study explores the extent of implementation of green supply chain initiatives for SMEs. There should be an environmental responsibility in logistics activities of small and medium-sized enterprises. Green logistics describes all the attempts to minimize the ecological impacts of logistic activities. The result of green logistics will help the environmental performance, sustainable performance, business performance and Supply Chain performance in small and medium-sized enterprises.

Limitations of the Study

This study has some potential limitations. One of the limitation that the employees are unwilling to disclose the activities in SMEs. This study have faced the problem of having limited access to these respondents. This study have taken insufficient sample size for statistical measurements. Also time constraint will be another problem. Furthermore, some respondents are not responded the questionnaire given to them.

Review of Literature

Cassells and Lewis 2014. Found that waste and transport are the main areas where small and medium-sized enterprises impact upon the environment, and their initiative focused on activities to neutralize hazardous waste before discharging into the environment, reduce waste and packaging and increase recycling. Also they aim to reduce fuel and energy use, adopt environmental friendly distribution system and minimize generation of population.

Rao 2014. Always considered as one single system to deliver the product or the service, any shortfall on the part of sustainability initiative from business partners is taken as the company‘s failure to ensure sustainability. This is why the state of the art companies have tried to integrate the sustainability initiative in a complete manner along the entire supply chain. Green supply chain management practices in India have generally been more popular with large and state of the art companies. However, for greening of industry it is crucial that the SME sector is environmentally sustainable.

Bacallan, 2000. The green supply chain on one side would help companies to contribute towards sustainability for their own operation. On the other side this initiative would directly lead to greening of industry which is so desperately needed in today's world. In India like most of Asia, for many organizations, green supply chain approach has been a popular way to demonstratetheir commitment to sustainability.

Muller, 2015. Ever since 1992, when the sustainability word was first coined in the Earth Summit at Rio, the environment management in the context of business became a topic on the international policy arena, as the United Nations Environmental Program (UNEP) was established. Since then, several initiatives have been taken, like EMS, Environmental Management System, Cleaner Production, Responsible Manufacturing and GSCM, green supply chain management. The latter approach seems to be the most comprehensive of such initiatives as it encompasses the entire operations of a company and involves all stakeholders. It even looks beyond "The walls of the Factory" to extend the sustainability benefits to communities surrounding them

Esty and Winston 2016. Explore the small and medium-sized enterprises considering to achieve 'eco - advantage' by how to integrate sustainability issues into their operations and achieve competitive advantage how they adopt and innovate in terms of sustainability, the benefits which accrue and the obstacles they face. Their work build on15 small and medium-sized enterprises in UK revealing the scope and challenges for small and medium-sized enterprises to adopt more sustainable practices, encompassing innovations and a broad set of capabilities. According to the small and medium-sized enterprises have generally been thought of as experts in innovations and creativity. This initiative can now be transformed into green innovation and small and medium-sized enterprises could be seen to encourage the development of new, more sustainable products, changing processes to reduce particulates and emissions, come up with more energy efficient warehousing and a host of other sustainability initiatives.

Kot 2018. Conducted a detailed analysis of sustainable development in the supply chain of small and medium-sized enterprises sector and came out with a finding that interest and implementation of sustainability in this sector is currently underdeveloped. A limited number of studies in this specific field have been conducted at present in the existing literature. However, the examination shows that small and medium-sized enterprises are involved more in environmental and social practices of the supply chain, which are strongly connected with the customers and managers priorities.

Inayatullah and Singh (2015) explored the similarities and dissimilarities of green supply chain management practices between large enterprises (LE) and small and-medium enterprises (SME) of India. Using a Survey method to gather the responses from Indian organizations they come out with the finding that both large enterprises and SMEs have similar business objectives and to achieve these objectives they employ strategies which are similar. However, SMEs lack in strengthening the relationship with suppliers and supplier's skill development as well. In other words they are not able to green the In-bound logistics of the supply chain with respect to suppliers. Also there are differences in the way SMEs and large organizations look at barriers to implementation of SCM practices, the culture prevalent n the organization, and benchmarking practices. Their finding revealed that the major barriers to implement SCM practices in the context of SMEs are found to be high costs, human resource resistant to new techniques, lack of clear understanding of SCM, non-availability of training for new technologies, and improper communication systems.

Rawat et al., 2014. Small, and medium enterprises SMEs play a vital role in the growth of the Indian economy by contributing 45% of industrial output and 40% of exports, employing 60 million people, creating 1.3 million jobs every year, and producing over 8000 quality products for the Indian and international markets. The contribution of SMEs towards GDP in 2016 was about 20 %; this is expected to increase much higher in next few years. There are approximately 30 million micro, small, and medium enterprises (MSME) units in India, and 12 million people are expected to join the workforce in the next few years.

Lynne (2008). Also small, and medium enterprises (SMEs) consider commercial benefits, customer and competition and also inter-organizational cooperation as supply chain priorities. These issues impact upon material sourcing, distribution and integration into the entire supply chain, but there is a lack of empirical research into the challenges of developing and marketing green products. It is well known that proactive businesses, especially large business houses can achieve first mover benefits by adopting more sustainable practices, which in turn create competitive advantage that is hard for competitors to copy. According to there have been leading companies who met both customer and environmental needs. They designed and manufactured green products and developed the reputation of a trusted eco-brand.

Jain and Gupta (2016). Have explored the status of GSCM Implementation in SMEs in different countries such as China and Japan and found that the mode of implementation has been different in different countries. Their review also suggests that manufacturing industry in one country becomes different from other countries due to their differences in background and culture because different industry sectors face different pressures.

FINDINGS

Based on demographic details of the respondents

- Majority (52.7%) of the respondents belong to the age group of below 30 years
- Majority (71.0%) of the respondents are male
- Majority (55.9%) of the respondents are unmarried
- Majority (44.1%) of the respondent educational qualification is under graduate
- Majority (45.2%) of the respondent occupation is employed for wage
- Majority (37.6%) of the respondents annual salary is below 2,50,000

Based on understanding the viability of SMEs in moving towards green logistics.

- Majority (59.1%) of the respondents agree for the contract obligation for supplying to large firms
- Majority (45.2%) of the respondents neither agree nor disagree for the quicker adoption of ESG by large firms
- Majority (88.2%) of the respondents agree for the SMEs packing of products
- Majority (49.5%) of the respondents agree for the environmentally friendly mechanics used
- Majority (36.6%) of the respondents opinion is neither agree nor disagree to reduce carbon foot prints
- Majority (43.0%) of the respondents agree for the optimize transportation and deliveries
- Majority (50.5%) of the respondents agree to update reserve logistics practices
- Majority (39.8%) of the respondents agree to win over customer
- Majority (43.0%) of the respondents agree to promote social harmony
- Majority (36.6%) of the respondents agree to create competitive advantages of firms

Based on green logistics by SMEs in production

- Majority (54.8) of the respondents are agreed that they using environment friendly raw materials in production
- Majority (40.9%) of the respondents agree that they are using substitution of environmental questionable materials
- Majority (44.1%) of the respondents agree that they reduce environmental impact on production which helps in eco- friendly production
- Majority (40.9%) of the respondents agree to accounting for environmental design considerations
- Majority (33.3%) of the respondents neither agree nor disagree to optimization of process to reduce solid & liquid waste and emissions
- Majority (35.5%) of the respondents are neither agree nor disagree that they use cleaner technology processes to save energy, water, and waste
- Majority (34.4%) of the respondents are agree to internal recycling of materials within the production phase
- Majority (49.5%) of the respondents are agree in environmental criteria for low cost production
- Majority (52.7%) of the respondents are agree in utilize technology led practices to lesser their impact on environment
- Majority (36.6%) of the respondents are agree in need for improving operations

Based on greening the outbound logistics of the supply chains by SMEs.

- Majority (45.2%) of the respondents are agree in increased visibility over many factor influencing supply chain
- Majority (37.6%) of the respondents strongly agree in on time delivery
- majority (41.9%) of the respondents strongly agree in use of electric vehicles for shorter distance reduces pollution
- Majority (43.0%) of the respondents agree in quality packaging of products
- Majority (49.5%) of the respondents agree in transparency with the customers
- Majority (36.6%) of the respondents strongly agree in flawless deliveries
- Majority (35.5%) of the respondents agree in keeping the customer adopted to product journey
- Majority (46.2%) of the respondents agree in improved technologies
- Majority (45.2%) of the respondents agree that there is a need to optimize warehouse communication
- Majority (44.1%) of the respondents agree in proper flow of supply chain

SUGGESTIONS

Thus the research concludes that currently green procurement and green production are able to result in economic performance, as the customers are fine with greening initiatives of SMEs. The SMEs often have customers who are world class companies who need their suppliers to be green. So as long as SMEs are able to convince these customers that they are putting in effort to green their logistics activities, the customers are fine, leading to economic performance of the SMEs. However, failure to achieve green outbound perhaps is resulting in not achieving the environmental performance, leading to failure to achieve greening of industry. In fact the Environmental Performance not being significantly achieved is indeed a concern because without environmental performance the pollution levels, toxic emissions, hazardous solid and liquid waste being generated, would seriously burden the health and well-being of communities surrounding the SMEs.These results bring out the fact that greening of inbound as well as greening of production have to be achieved at a much higher level so that greening of outbound would be significant leading to significant environmental

CONCLUSIONS

Companies are constantly under pressure to develop environmentally friendly and responsible operations and commitment to the natural environment is an important variable within the competitive scenarious .organization face their internal or external factors of green logistics at a corporate level . Organizational factors are very important for most industries but technological factors should be taken in to account in the future, there are other means such as increasing the environmental awareness of manager , but it is a long term objective at a corporate level .SMEs are prioritizing moving towards green logistics and green solutions suppliers should consider the value of relative advantage ,complexity of systems and compatibility of system use to potential market.

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