

**AN OVERVIEW OF SUSTAINABLE SUPPLY CHAIN MANAGEMENT IN SMALL AND MEDIUM ENTERPRISES**

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**Abstract:**

Increasing concern about the environment has forced the industry to innovate and reduce its environmental impact. Due to various reasons, SMEs may have been left out of the regulatory and social pressures. The time has come when ignoring the environmental impacts of SMEs is no longer viable. Green practices are necessary to fight global warming and save scarce resources. The major growing sectors which support the Indian economy are agriculture, and small and medium enterprises (SMEs) SMEs contribute to the Indian economy’s GDP next to the agriculture sectors which includes all types of industries like Cement, steel, textile, handicraft industries etc. As SMEs are growing sectors and possess lots of opportunities and are the backbone of the economy, still faced challenges related to environmental issues. It has to work for reducing the negative impact of environmental issues. The vast environmental degradation has called forth the sustainability principle, turning environmental aspects into important criteria in the business decision-making process. This situation has ultimately resulted in binding environmental legislation and pressures imposed by the internal and external customers together with stakeholders. The sustainable management of supply chains initiated by these drivers has soon taken a voluntary path due to some indispensable returns such as increased efficiency, reduced costs, increased external and internal customer satisfaction, increased sales and market share together with more effective risk management. The purpose of this study is to analyze the literature on sustainable supply chain management in SMEs thoroughly to reveal the collective findings that will lead to future research.

**Keywords:** SMEs, Sustainability, Supply chain management, Environmental Impact.

**1. Introduction to SMEs**

Small and medium Enterprises (SMEs) occupy a prominent place in the Indian economy due to its Sustained contribution to industrial production, exports, and employment, among others, since independence. SMEs Contribute 78% of employment generation and 29% of GDP in developing economies and in the Indian economy, more than 80% constitute of total number of industrial enterprises that accelerate industrial growth. Small and medium enterprises also contribute 45% of manufacturing sectors and perform 40% in Indian export sectors. Its participation in GDP is 8% and it recorded a 10.8% average growth rate per annum<sup>1</sup>. SMEs consisting different trading related to agricultural goods, steel products, leather, gems and jewelry, textile, and much other value-added services.

In India, SMEs are commonly categorized in terms of the size of the investment in assets (Rai2009).<sup>2</sup>

Table-1 Manufacturing Enterprises—Investment in Plant & Machinery

Description	INR	USD(\$)
Micro Enterprises	Upto Rs 25 Lakhs	Upto \$ 62,500
Small Enterprises	Above Rs 25lakhs & Upto Rs 5 Crores	Above \$ 62,500 & Upto \$1.25 million

Medium Enterprises	Above Rs 5 Crores & upto 10 Crores	Above \$1.25 million & upto \$2.5 million
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**Service Enterprises—Investment in Equipment**

Description	INR	USD(\$)
Micro Enterprises	Upto Rs 10Lakhs	Upto \$ 25,000
Small Enterprises	Above Rs 10Lakhs & uptoRs 2 Crores.	Above \$ 25,000 & upto \$ 0.5 million
Medium Enterprises	Above 2 Crore and upto 5 Crore	Above \$ 0.5 million & upto \$ 1.5 million

**1.1 Role and Importance of MSMEs in Economic Development**

Small and Medium enterprises have been the backbone of self sustainable industrial development. SMEs represent an indigenous model of economic development, which emphasized high contribution to domestic production, significant export earnings, low investment requirements, employment generations, effective contribution to foreign exchange earning of the nation with low import intensive operations.

The contribution of Small Scale Industries (SSIs) comprises more or less of the same MSME gamest of companies has been remarkable in the industrial development of the country. It has a share of 40% in the industrial production with 35% of the total manufacturing related exports of the country are directly accounted for by this sector. In terms of employment generation, this MSMEs sector again attracting attention next only to agriculture sector. MSMEs is less capital intensive which will suit the Indian economic environment with scarce resources and large population base. In addition, it is highly and ahs a scope for labour intensive for building upon the traditional skill and knowledge. Overall, the small industry sector has done quite well and has enabled the country to achievable considerable industrial growth and diversification.

Table 2: Contribution of manufacturing output of MSMEs in GDP

Year	Gross Value of Output of MSMEs Manufacturing sector	Share of MSME sector in total GDP (%)			Share of MSME Manufacturing output in total Manufacturing output (%)
		Manufacturing sector MSME	Service Sector MSME	Total	
2008-2009	1375589	7.52	28.60	36.12	40.79
2009-2010	1488352	7.45	28.60	36.05	39.63
2010-2011	1653622	7.39	29.30	36.69	38.50
2011-2012	1788584	7.27	30.70	37.97	37.47
2012-2013	1809976	7.04	30.50	37.54	37.33

(Source: - MSME Annual Report 2014-2015)

The above table highlights the percentage share of MSME sector in GDP of India and also shows the output of the MSME manufacturing output to the total manufacturing sector for a period of 5 years

from 2008-2009 to 2012-2013. It may be observed that the percentage share of manufacturing sector is less as compared to that of service sector; which indicates that the MSMEs are more into the service industry. There has been declining trend of percentage share of manufacturing sector's contribution to the GDP; this could be because of the problems faced such as lack of proper and timely credit flow, technological limitations, inefficient marketing of the products, and unavailability of skilled man power. Although the MSME manufacturing sectors output has been increasing, but as a percentage of total manufacturing it shows a declining trend. The contribution of service sector in total GDP is rapidly increasing as there is high demand from the foreign consumers thus leading to increase in exports in country. This is mainly contributing the fact that India has a large pool of low cost, and educated workers in the country.

### **1.2 Performance of the SME's regarding environmental issues:**

As we observed that SME's are treated as the engine of growth in Indian economy. The continuous performance of SME's, in employment generation and gross output, provides it a leading position in economic activities and social issues. The impact of SME's performance influences many other activities of Indian economy related to social and environmental issues rather than any other countries because of its great changes in economy. The impact can be measured as positive and negative. Both impacts have to be considered while formulating any policy. Because all the issues are interrelated, a positive impact on environment creates positive influence on society and a healthy society that can stimulate a growing economy. Henceforth in recent years all SME's are recognized as a base for the policy development including environmental front. However the measurement of SME's performance in Environmental issues such as management of wastage of resources or water pollution or emission of energy is not more impressive in many regions. It can be dangerous for the SME's growth sustainability if the environmental issues are ignored by the policy developer.

Mostly the main objective of the SME's is to maximize their profit but they all are confused where should be their investment. The strategies are not coped with the actual problem, they all are running behind the globalization model which are not correct, each and every SME has to focus its own domestic region then has to understand the society model. Once a model is truly formulated the policy will be satisfied all inter-linkages issues whether they are related to environment or society responsibilities. Each society responsibility linked with the environmental issues and those issues will support the SME's growth and the growth is connected to Indian economy development.

## **2. Literature Review:**

### **Medium and Small Enterprises (MSE's)**

**Subramanya Bala (2011)**<sup>21</sup> has probed the impact of globalization on the export's potential of small enterprises. This study shows the share of SSI export in total export has increased in protection period but remain more or less stagnated during the liberalization period. However, the correlation co-efficient in liberalization period is higher than that of protection period suggesting that the relationship between the total export and SSI export has become stronger in liberalization period. This may be due to drastic change in composition of SSI export items from traditional to non-traditional and growth in its contribution to total export through trading houses, export houses, and subcontracting relation with large enterprises.

**Bhavani T.A. (2010)**<sup>22</sup> highlights the issue of quality employment generation by the SSIs and negates the short-term attitude of increasing volume of employment generation compromising with quality. The author argues that employment generation by the SSIs may be high in quantitative term but very low in quality. Technological upgradation would enable the small firms to create quality employment improving remuneration, duration and skill. This structural shift may reduce the rate of

employment generation in the short run but would ensure high-income employment generation in the long run.

**Sonia and Kansai Rajeev (2009)**<sup>23</sup> studied the effects of globalization on Micro, Small and Medium Enterprises (MSMEs) during pre and post liberalization from 1973-74 to 2008-2009. They used four economic parameters namely number of units, production, employment and export and interpreted study results based on Annual Average Growth Rate (AAGR) calculation. AAGR in pre-liberalization period (1973-74 to 1989-90) was higher in all selected parameters than that of post liberalization period (1991-92-2007-08). They concluded that MSMEs failed to put up an impressive performance in post reform era.

**Sandesara (1993)**<sup>24</sup> studied the performance of SSIs producing reserved items collecting data from the second census conducted by the Ministry of SSIs. The study examined the null hypothesis that the SSI firms producing reserved category should perform better than the SSIs producing non-reserved items. The study result revealed that capacity utilization in 1987-88 and aggregate change in production in 1987-88 were both lower for reserved than for unreserved items. This below par performance of the SSI firms producing reserved items was surprising as those firms did not have to face competition from the large firms. The author observed that this could be due to the entrance of SSI firms into the protected area.

In a competitive business scenario, social and environmental aspects become a standard for SME's in enlarging enterprises with large industries. M.H BalaSubramanyam (2007)<sup>25</sup> analyzed the combined result in upward growth of SMEs but there are many other sectors which are left uncounted. He focused on globalization for improving the strategies for SMEs. Policy maker have articulated their interest in sustainability of growth in SMEs that concern from literature and surveys. In this context Md Zulkifli and Md Abdul Kamal Car (2010)<sup>26</sup> suggest in their study that to strengthen directly inter firm cooperation within SMEs Cluster is not sufficient. To make it more effective, policies should be interrelated and combined with another set of policies of government.

The most reasonable obstacle to environmental sustainable growth of industries is cheapness of many wasteful and polluting goods. Hence the uses of such type of goods are increasing day by day. The main reason for cheapness of goods is the exclusion of ecological cost in the price. For eliminating the use of polluting commodities, green economy and markets are promoted by many practitioners. According to Venkateshwar (2012)<sup>27</sup> green economy is the path for potential market and he suggest in study that green agenda should include challenges in strengthening MSMEs managerial capabilities, creation of awareness on economic values and quality standard at global level. Gurudas Nulkar(2013)<sup>28</sup> ; concluded from his study that small firm must respond to the environmental challenges. They can't ignore survive after ignoring these challenges. SMEs should think about Green the Practices that have reduced wastage and improve business results.

R.A. Sudath Weerashri(2012)<sup>29</sup> found in his study that an attitude has to be considered for marinating the positive attitude towards environmental issues. As far as awareness and practices are concerned he found an extensive gap between SMEs and large industries. Many emerging issues related to environmental and social aspects faced by SMEs are affected by the perception of owners and managers. The growth sustainability of SMEs depends on the innovative strategies adopted by these managers. Nkoli Augustine (2013)<sup>30</sup> provides in his study "manager perception environmental sustainability's in SMEs: implication for competitive marketing advantages "said that the perception of managers of organization is not positive towards environmental investment. They are not making any effort for bringing awareness among the consumers waste disposal.

### **3. Supply Chain Management (SCM), Supply Chain Sustainability (SCS) and Green Supply Chain Management (GSCM)**

Supply Chain (SC) is defined as an integrated manufacturing process where in raw materials are manufactured into final products, then delivered to customers (Beamon, 1999; Beamon.2005)<sup>3,4</sup>

Supply Chain Management(SCM) is a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses, and stores, so that a quality product is produced and distributed in right quantities to the right locations, at the right time and at a minimum cost( Mc Laren etal..) <sup>5</sup>

Supply Chain Sustainability is a business issue affecting an organization’s supply chain or logistics network in terms of environmental, risk, and waste costs. There is a growing need for integrating environmentally sound choices into supply-chain management (Srivastava, Samir K2007) <sup>6</sup>

Green Supply Chain Management (GSCM) is integrating environmental thinking into Supply chain Management (Gilbert,2001).<sup>7</sup> It is an approach for improving the performance of the processes and products according to the requirements of the environmental regulations (Hsu & Hu 2008) <sup>8</sup>

**3.1 Integration of Sustainability into SCM:**

The supply chain includes the flow and transformation of goods and information from raw material stage, through to the end user (Seuring & Muller,2008)<sup>9</sup>. The organization of operations has extended to the entire supply chain rather than a specific facility or organization during the last two decades (Linton, Klassen & Jayaraman ,2007).<sup>10</sup> Sustainability in SCM must also include product design, manufacturing by-products, by-products produced during product use, product life extension, product end-of-life, and recovery processes at end-of –life, in addition to the core Supply chain activities (Linton, Klassen & Jayaraman ,2007). The above mentioned integration calls for an extended set of needs for the design of SSCM, among which sustainable management systems are considered the most significant with respect to economical, environmental and social customer requirements (Buyukozkan Feyzioglu & Erkut, 2008)<sup>11</sup>. These needs are provided in Table3

Table 3. SSCM Design Needs

Employee Training	Fuel Monitoring-Control Devices
Certification Programs for the Employees	Local or Overseas Suppliers
Balanced Working Hours	Fair Payments to the Suppliers
Security in Material Handling & Stocking	Long-term Supplier Options
Optimization in Warehouse Design & Work-Flows	Collaboration with the Suppliers
Reusable Packaging Options	Optimization of the Supply Chain & Logistic Network
Optimization in the Product Collection Process	Accuracy Rate in the Forecasting Methods
Consolidation	Sustainable Management Systems
Minimization of the Obsolete & Damaged Inventory	Utilization of Decision Support Systems
Traceability of the products	Efficiency in Product Returns

Optimization of the Transportation Roads & Routes	Efficient Distribution Strategies
Regular Vehicle Maintenance	External Resource Use in Reverse Logistics Operations
Fuel Saving Transportation Means	Establishment of a Central Return Unit

(Buyukozkan, Feyzioglu, & Erkut, 2008)

**3.2. The Drivers, Barriers and Benefits of SSCM: -**

Sustainable development has the potential to affect future government policy, current production operations, and identify new business models, with new initiatives being proposed or adopted by both the public and private sectors (Linton, Klassen & Jayaraman, 2007). Such binding legislations resulting from the urge for sustainability together with the pressures imposed by the customers have been the main drivers in the adoption of environmental approaches in SCM for companies worldwide ( Zhu & Sarkis, 2004;<sup>12</sup> Sheu, Chou, & Hu,2005;<sup>13</sup> Srivastava, 2007;<sup>14</sup> Buyukozkan, Feyzioglu, & Erkut, 2008). Based on an extensive literature review, Walker, Di Sisto,& Mc Bain(2008)<sup>15</sup> have identified the drivers and barriers to supply chain environmental management(SCEM) practices from both private and public sector perspectives as in Table 4

The concept of Greening the supply chain is expected to play a very critical role in the greening of industry in this region in many different ways. Large Companies who usually initiate this process have many suppliers and business partners who belong to the category called the Small & Medium enterprises (SME's). They employ a very part of the working population in India .SME's are found in densely populated areas, operate in highly competitive markets and attain very poor profit margins. Because of their lack of awareness on environmental aspects and also because of their funding limitations, SME's have not really shown much interest in greening their operations. According to current trends a major part of manufacturing in Asia will take place with SME's through the outsourcing of the processes handed over to them by large business Corporations. If these manufacturing is to be carried out in environment-friendly manner so as to reduce the environmental burden created by the industry, the greening of supply chain initiative would indeed have tremendous effect.(Ciliberti, Pontrandolfo and Scozzi 2008: Philippine Business for environment2006: 13-16)<sup>16,17</sup>

On one side, SME's contribute significantly towards the total production of goods and services. On the other side, they have been accused of being the biggest polluters and the source of about about 70% of the entire pollution in the region. Because of these environmental concerns, it is extremely critical that their operations should become environment friendly. The greening of supply chain initiative that is striving to green all the stakeholders along the supply chain, many of whom are SME's, would be able address the greening of the SME's sector in this region (Antonio2002: 14-16 Antonio2003: 14-16 ; Rao 2007)<sup>18,19,20</sup>

Table: -4 Drivers and Barriers of SSCM

Drivers		Barriers	
Internal	External	Internal	External
<p><u>Organizational Factors:</u> Skillful policy entrepreneurs Desire to reduce costs Investor Pressure Manage economic risk Improve quality of founder's and/or owner's value Employee Involvement Manager's improving position in company</p>	<p><u>Regulatory:</u> Legislative and regulatory compliance Pro-active action pre-regulation ISO 14000 certification <u>Customers:</u> Pressures by customers to green supply chain Customer demand Collaborate with customers E-logistics and environment Marketing Pressures <u>Competition:</u> Gaining competitive advantage Improve firm performance</p>	<p><u>Costs:</u> Cost concern hinders Lack of understanding on how to incorporate green into buying Focus on cost reductions at expense of green practices Lack of training and management commitment Lack of buyer awareness Accounting methods limit green reporting Pressure for lower prizes</p>	<p><u>Regulation:</u> Inhibits innovation <u>Poor supplier commitment</u> Unwilling to exchange information <u>Industry specific barriers</u></p>
	<p><u>Society:</u> Stakeholder encouragement Potential publicity Public Pressure Reduce risk of consumer criticism Non-economic stakeholders Pressure by environmental advocacy groups <u>Suppliers:</u> Collaborate with suppliers Supply integration</p>	<p><u>Lack of legitimacy</u> PR exercise as greenwash</p>	

(Walker, Di Sisto, & Mc Bain (2008)

### 3.3 SSCM/GSCM

Sustainable supply chain management (SSCM)/ Green supply chain management (GSCM) is still nascent in India. GSCM is quite difficult to implement in the Indian context, given the need for a higher degree of coordination; moreover the weak scenario of regulations in India, low customer awareness, the difficult resource requirements add to the difficulty in implementation.

To appreciate the benefits of greening the supply chain, a firm should understand the implications of GSCM. The basic framework of a green supply chain involves the following components (Sarkis, 1999; Rao,2002)<sup>31,32</sup>

a) Greening the inbound function of the Supply Chain: - From the inbound perspective of a supply chain, it has been argued that greening the supply chain leads to numerous benefits for an organization, ranging from cost reduction to the integration of suppliers in a participative decision-making process that promotes environmental innovation ( Bowen et al,2001; Hall 1993: Rao,2002). A large part of inbound function is essentially composed of the green purchasing strategies that are adopted by organizations in response to increasing global concerns about environmental sustainability.

b) Greening Production or Internal Supply Chain:- The production phase has a critical role in ensuring that then products/services produced by an organization are environmentally friendly; the prevention of pollution at source is achieved through the production process; cleaner production practices are adopted; closed loop manufacturing ( reverse logistics) is incorporated to the fullest possible extent, so that the waste generated is processed and recycled into the production phase; the reuse and recycling of materials are maximized; material usage is reduced; the recyclable content of a product is increased; the production process are optimized so that generation of waste ( hazardous or otherwise) is minimized; and products are redesigned( design for the environment) so that the adverse environmental impacts of particular products are minimized.

c) Greening the Outbound Function of the Supply Chain:- The components of the latent construct that investigates this GSCM element include the identification of packaging, waste disposal, and transportation and green marketing strategies

An additional component in the green supply is Reverse Logistics, which involves the acquisition and collection of items after use, testing and grading, reprocessing and redistribution back into the inbound phase of the supply chain in the industry is very difficult.

In order of determine the shortcomings of existing and possible areas of future research, together with overall frameworks and literature reviews, recent methodologies, models, approaches, case studies, and research on social aspects have been analysed. Briefly , some of the topics focused on are SSCM approaches, effects on competitiveness, efficiency and economic performance, strategies, decision making methods, standardization, eco-efficiency, corporate social responsibility and key performance measures .

Table 5: - SSCM Research

Author (s)/Year	Methodology	Sustainability Dimension	Research Area	Major Findings
Chengedzai Mafini Asphat Muposhi(2017)	Literature Review/ Questionnaire survey	Social/Economical/ Environmental	The impact of green supply chain management in small to medium enterprises: Cross-sectional evidence	The study reveals higher level of environmental collaboration inspired higher levels of SME financial performance
Thoo Ai China, Huam Hon Tatb, Zuraidah Sulaimana (2015)	Literature Review/ Questionnaire survey	Social /Environmental	Green Supply Chain Management, Environmental Collaboration and Sustainability Performance	Environmental collaboration has been proposed as a moderator of the link between GSCM practices and Sustainability performance in this



				paper.
Editorial (2015)	Review of 11 papers from 40 papers from Transportation Research Part “E” Journal	Social/ Environmental	Green supply chain collaboration and incentives: Current trends and future directions	This paper discusses the current trends and future research directions in green Supply chain collaboration and incentives.
Su-Yol Lee , (2015),	Literature Review/ Questionnaire survey	Social/Economical/ Environmental	The Effects of Green Supply Chain Management on the Supplier’s Performance through Social Capital Accumulation	The findings of this paper provide useful guidance for Supply Chain managers regarding designing & managing their supply chains for enhancing environmental & operational capabilities of the entire supply chain
Payman Ahi, Cory Searcy* (2014)	Literature Review	Environmental/ Economic	An analysis of metrics used to measure performance in green and sustainable supply chains	This study able to analyze the obstacles against implementing green practices in SME’s and house hold industries.
Kannan Govindan Ali Diabat K. Madan Shankar (2014)	Literature Review/ Questionnaire survey/ Expert opinion	Social / Environmental	Analyzing the drivers of green manufacturing with fuzzy approach	The analysis resorted to the use of a fuzzy Multi Criteria Decision Making (MCDM) approach. It helps firms to stimulate an essential driver for quick and better adoption of green manufacturing.
Bart van Hoof*, Marcus Thiell(2014)	Questionnaire survey	Social / Environmental	Collaboration capacity for sustainable supply chain management: small and medium-sized enterprises in Mexico	This paper contributes to theory by integrating sustainability related organizational routines with collaboration theory and Specifying network capabilities of sustainable supply chain management.
Ming-Kuei	Literature	Social/	Influences of green	This paper discusses

Chien(2014)	survey,/ questionnaire survey/ In depth interviews	Environmental	supply chain management practices on organizational sustainable performance	that their green strategies practiced by manufacturers will positively affect the economic, environmental, and social performance of a certain organization
Subrata Mitraa & Partha Priya Dattaa(2014)	Literature Review/ Questionnaire survey	Social/ Environmental	Adoption of green supply chain management practices and their impact on performance: an exploratory study of Indian manufacturing firms	The study shows that the supplier collaboration for environmental sustainability had a positive impact on environmental sustainable product design and logistics which relates to competitiveness & economic performance of the firm
Sonia Irshad Mari, Young Hae Lee, and Muhammad Saad Memon(2014)	Literature Review/ Mathematical Modelling	Social/ Environmental	Sustainable and Resilient Supply Chain Network Design under Disruption Risks	The paper proposed an optimization model for designing a sustainable and resilient supply chain network by incorporating carbon emission and embodied carbon footprints, Considering disruption risks.
Ping-Chuan Chen and Shiu-Wan Hung(2013)	Literature Review/ Questionnaire survey	Social/Economical/ Environmental	Collaborative green innovation in emerging countries: a social capital perspective	The empirical results showed that: structural capital and cognitive capital have a positive influence on relational capital, Relational capital plays a significant role in green management.
Mark Pagell & Anton Shevchenko (2013)	Literature Review	Social/ Environmental	Why research in Sustainable Supply Chain Management should have no future	This paper discusses about sourcing and SCM research can help lead the Change to truly sustainable supply chains

Voon-Hsien Lee, Keng-Boon Ooi, Alain Yee- Loong Chong & Binshan Lin(2013)	Literature Review/ Questionnaire survey	Social/ Environmen tal	A structural analysis of greening the supplier, environmental performance and competitive advantage	This paper reveals the existence of a positive and significant linkage between green suppliers with both environmental performance and competitive advantage. environmental performance has also been shown to positively and significantly affect competitive advantage.
<b>SSCM Research</b> (Source:-M. Ovul Ariogulu, et al)				
Olugu , etal (2010)	Literature Review/ Survey	Environmen tal & Economic	Measures for performance of automobile GSC	Key performance measures on the forward and reverse chains
Lee etal. (2010)	Model Building/ Case Study	Environmen tal & Social	Design of sustainable logistic network(SLN) under certainty	The deterministic programming model for uncertain characteristics of SLN; two –stage stochastic programming model; a case study involving a large scale SLN in Asia pacific region
Kolk and Tulder(2010)	Literature Review	Social	CSR & Sustainable development(SD)	Five dimensions in international business literature , a future research agenda on international business, CSR and SD
Hall etal. (2010)	Literature Review	Environmen tal & Social	Emerging and future research directions about SD and Entrepreneurship	SD emerging an influential concept for entrepreneurship; recent research in the area and suggestions

				for future research
Tuzkaya et al (2009)	Model Development/ Case Study	Environmental, Economical & Social	Environmental Performance evaluation of suppliers	An integrated fuzzy multi –criteria decision – making methodology for the evaluation of supplier’s environmental performance
Routroy (2009)	Overall Evaluation/ Theory Building	Environmental & Economic	Antecedent and drivers for GSCM in manufacturing environment	Top management commitment and government’s initiative identified as antecedents; green sourcing, green design, green operations, green packaging, green logistics, environmental management systems, green innovation and customer awareness as drivers
Lin et al.(2009)	Survey	Social	Influences of organizational factors on the implementation of green innovation in logistics industry	Organizational support for innovation, the quality of human capital, and organizational knowledge accumulational being significantly correlated with the implementation of green innovations in the logistics industry ; possible areas of future research
Dehghanian & Mansour (2009)	Model Building/ Case study	Environmental, Economical & Social	Designing a sustainable recovery network	Multi- objective Programming model for multi-objective optimization of sustainable recovery network of scrap tire; weighted percentage of deviation being a good measure to guide decision maker’s preferences.

Boiral (2009)	Theory Building	Environmental & Social	Organizational citizenship behaviors' & corporate Environmental man	Organizational citizenship behaviours positively affecting the applicability and success of environmental practices in corporations; possible areas of future research
Zhu et al.(2008)	Survey	Environmental & Social	Correlation between organizational learning and management support and GSCM practices	GSCM practices having significant positive relationships, with organizational learning mechanisms and organizational support

**4. Conclusion**

SMEs contribute to economic development in various ways such as creating employment opportunities, providing goods and services at affordable costs by offering innovative solutions and sustainable development to the economy as a whole. With the growth of SMEs productivity, environmental sustainability is also important. It needs to be updated with the amendments of new technology for greening economy or market, new regulatory frameworks, legislation, public interest and competitive demand.

In today's competitive and global business environment, wherein sustainability stands in the forefront in various areas, SSCM integrating with environmental and social aspects into the supply chains has gained significant recognition in the corporate world and also SCM and environmental literature. The sustainable management of supply chains initiated by binding environmental legislations and pressures imposed by the customers and stakeholders has soon voluntarily been accepted by the business world due to substantial returns including increased efficiency, reduced costs, increased internal and external customer satisfaction, increased sales and market share together with a more effective risk management.

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