

SIGNIFICANCE OF SUPPLY CHAIN NETWORK IN SUSTAINING GROWTH OF SMALL AND MEDIUM ENTERPRISES IN INDIA

JAGRITI JAISWAL*

ABSTRACT:

India is seen as a future market for the global investors. It's vast cultural diversity and rapid growth of various sectors of Small and medium enterprises attracted the attention of central and local body of government to initiate the supporting policies for increasing the efficiency of small and medium enterprises.

It is known very well that SMEs are the engine of growth for any economic model. It's contribution in Indian GDP is recorded next to agriculture sectors. It's emerging trend of development generate the ample of opportunity for employment in India, where most of the people looking towards the small industries for earning their livelihood and compelled to live underemployment. In employment generation, it is at 2nd position in Indian economy.

The main concern of this paper is how to increase the efficiency and productivity of Small and medium enterprises by using well-structured supply chain network. This paper is focused on the effect of supply chain network on SME's development. The conclusion of the study is based on data of growth of Indian MSME which is collected from GOVT of India annual report 2012-13. It explores the main features of SME which can be accelerated with the help of supply chain network. How this supply chain network increase the productivity of small and medium enterprises.

This paper considers the various issues and challenges of Small and medium enterprises in reference of supply chain network. It highlights the key constraints and advantages of SMEs. It considers the literature review on supply chain network practices applied on small and medium enterprises and explanation the main imminent.

In this paper we found the improving strategy of supply chain network push the growth of SME. The acceptance of rapid growing technology, decision making strategy and operation research tools can improve the performance of supply chain network. The changing business scenario becomes multitasking, it has to perform all activity to gain the competitive advantage and sustain

* Assistant Professor, Doon University, School Of Social Science, Department Of Economics

in market place. This paper analyses that growth of SME is positively related to supply chain network practices.

Key words: SME's, economic development, supply chain management, competitive advantage.

Introduction:

Now a days we can observed that international business environment become a challenged for many industries to focus on supply chain network to achieve a competitive advantages. As organizations seek to develop partnerships and more effective information links with trading partners, internal processes become interlinked and span the traditional boundaries of firms. As we know SMEs is emerging sector and contribute 78% percent in employment generation and 29% in GDP in developing economy and in Indian economy, have more than 80% constitute of total number of industrial enterprises that accelerate industrial growth. Small medium enterprises donate 45% to manufacturing sectors and perform 40% in Indian export sectors. Its participation in Indian GDP is 8% and it recorded 10.8% average growth rate per annum. Small medium scale industries consisting various trading related to leather, gems and jewelry, textile, agricultural goods, steel products and many more value added services. This sector provides huge number of employment for the people. Its growth rate linked with high domestic production and export of those domestic commodities.

For sustaining this growth, SMEs have to improve their networking system. This networking system can be obtained by traditional supply chain networking with the help of the "triple bottom line" approach, including economic, environmental, and social aspect. Generally such type of traditional strategy is adopted by automobile sectors and fast moving consumers goods (FMCG) sectors for distributing their commodities. In many of countries, under the regime of free trade and globalization, the state has withdrawn the protection that provided to small-scale business.

The worldwide evolution toward more specialized activities and better communication and information systems, offers supply chains a higher capability than centralized firms in terms of flexibility, responsiveness and costs. DAVOS-Kloster, Switzerland(2013) mentioned in his

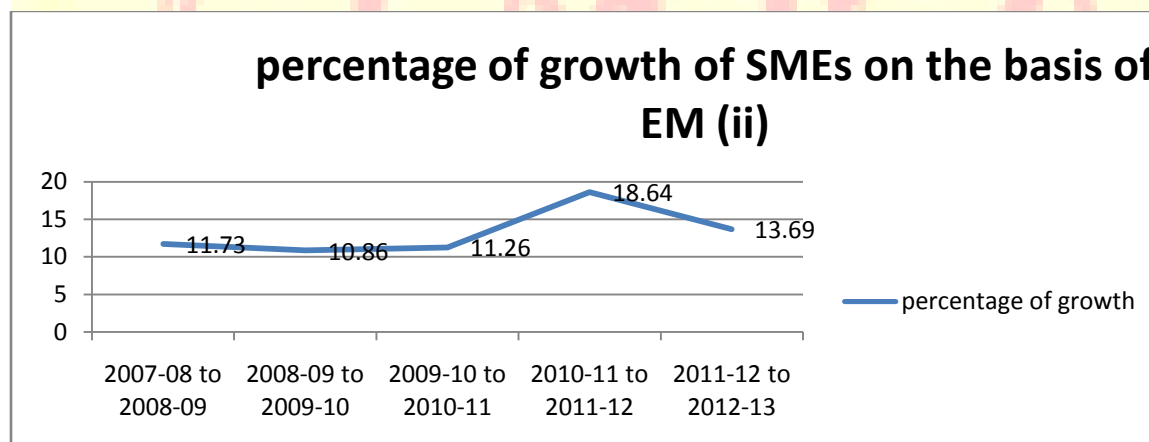
report (by world economic forum) that reducing supply chain barrier could increase global GDP up-to 6 times more than reducing all import tariff.

Through this study we can analyze that how a methodical supply chain networking helpful for improving national competitiveness and also have discussed about the challenges that can be transformed into opportunity for SMEs.

Growth rate of SMEs :

The following trend line is showing the number of SMEs from 2007 to 2013. On the basis of MSMED Act 2006 the Entrepreneur memorandum part (2), the following number of SMEs filled EM(2) form. This trend shows a constant movement from 2006 to 2010. After 2010 it shows a hike in number of SMEs. There is 18% of growth of EM(ii) form filled by SMEs. But there is a point to be noticed that decline trend can be seen from 2011 to 13. Now we need to think about the reason i.e. decline of the share of the manufacturing sectors in India. The share has come down to 15.2% in 2012-13. As we know this sector contributes a large share to Indian economy. This is not the only reason to decline the number of SMEs the another one is declining the output in agricultural activities. This sector has recorded 13.7% decline because of dropping human capital by 14.5% .

Figure: Growth of Small and Medium Enterprises



Source: Annual report MSMEs (2012-13), Government of India

Objective of the study:

This study focuses on the significance of supply chain networking of small and medium enterprises. It also describes the challenges and issues regarding supply chain networking in small and medium industries. It also reveals the impact of supply chain in SMEs as support.

Research methodology:

This study is based on the theoretical approach and concluded on the basis of literature review. This is based on critical review of near about 36 research article from high quality international journal. Mostly issues are covered under three categories i.e. networking, modeling and optimizing the output. This has reinforced the development of key hypotheses and proposals.

Literature review:

Giacomoliotta (2012) focuses in his study on simulation model of supply chain network in SMEs. He reveal that simulation can be used by SMEs at the individual level the estimating their own performance and capabilities. SMEs can also make use of simulation at the supply chain network level for complaining their own performance estimate to network integration requirement that emerged in these integrations requirements when cooperating with large enterprises. Performance of Supply chain network can also be evaluated for SMEs by separating their performance in small enterprises and medium enterprises. Seung-Kuk (2011) found in his study that Small scale industries and medium industries are different in purchasing performance, medium enterprises perform better than small enterprises. his research contribute to the growing body of knowledge related to purchasing and supply management in small and medium enterprises. he discuss about the key variable that can affect the purchasing practices and development such as industrial sectors, types of production process related to a large original equipment manufacturers.

Supply chain networking system improves the firm inside and outside activity. It works on capability, capacity and flexibility for the integrations activities of any SMEs. In this context

SitiZulkifi (2009) has discuss the various issues of supply chain activities in SMEs. He emphases on research and development for the improvement of supply chain integration in SMEs. In this order to be more competitive, SMEs has to increase their capabilities for supplying and manufacturing process.

It is not easy task to maintain the supply chain network among the SMEs. There are lots of challenges like quality maintenance, lack of partner's coordination and uncertainty in delivery etc. Sanjeev Malhotra (2012) revealed most of the issues for supply chain networking in SMEs. One of them is that no firm wants to holds inventory in supply chain which conserve the inventory level by taking out the redundancies in the supply chain

According to Lummus and Vokurka (1999) it isgenerally recognized that supply chain performance is limited by factors such as: The absence of frameworks which could help to establish alliances among supply chainpartners, the lack of integrated information systems and electronic commerce firms. the lack of trust inside and outside a company, the lack of tools to measure the effectiveness of a supply chain alliance.

A firm should consider various risk factors while formulating supply chain network so that firm can reduce their losses. It is defined by B.P. Sunjka (2012). His Results indicated that SMEs are affected by similar risk issues in all categories. There arealso indications of industry specific risks emanating from the supply side markets and thedemand side markets. The majority of risk sources were of a macro-economic and sociopoliticalnature, that is, risk root causes beyond the control of the company.

Lovelly, Saw & Stimson (2005) has revealed the importance of segmentation both as a part of network design process and as an operational tool and used five dimensions having the characteristics of the product, market, and source, geographical and environmental context. Segmentation is not the only tool but cluster improvement can also affect the supply chain network performance.NetsanetJoteTolossa1(2013) gives the importance of cluster supply chain.His Further studies in thedesign, implementation and improvement of cluster supply chain

have to be carried out. Moreover, here recommended that cluster in the global supply chain and benchmarking of best practices among these two disciplines should be studied further for effective exchange of know-how and technology. That plays a crucial role to enhance the productivity of a firm.

Thus, the success and subsistence of a company in the economic market rely not only on its ability to integrate managerial processes but also on coordinating all the related actors (Drucker 1998; Lambert and Cooper 2000).

What is supply chain networking?

A supply chain is the material, information, and services, typically crossing several different organizations, involved in producing and delivering a product or service to an end user. Supply chain management is a total systems approach to managing the entire flow of information, materials, and services from raw-material suppliers through factories and warehouses to the end customer. Infact, some scholars argue that firm survival in the modern business environment is no longer an issue of one firm competing against another firm but has, instead, become an issue of one supply chain competing against another supply chain (Fine 1998). Supply chain in SMEs is a set of business activities including purchase from open/spotMarket, manufacturing or processing of subcomponents/subassembly within the plant and delivery to large enterprises using hired transportation to enhance value of end product and in-turn to ensure long-term regular purchase orders.

Figure 1: supply chain model for improving operational excellence in a firm.



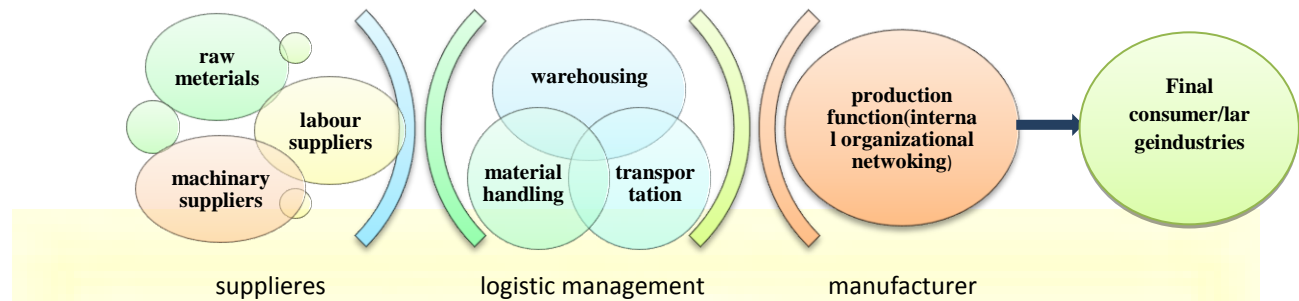
Source: David L. Anderson “7 principle of supply chain management”.

Supply and process costs represent 30 per cent of an average manufacturing SME’s budget and logistics cost incurs about 40 per cent of total supply spending (Jonh and Riley, 1985). From a manufacturing strategy point of view, the key strengths of SMEs are flexibility, quick decision-making and co-operation from employees, while weaknesses are the Lack of technical superiority, lack of infrastructural facilities and of financial resources (Dangayach and Deshmukh, 2001).

Model of supply chain networking:

There are various models of supply chain networking, which address both the upstream and downstream sides. Adoption of modeling is depends on SMEs nature- is that manufacturing sectors or service sectors.

Figure 2: Supply chain model in small and medium enterprises



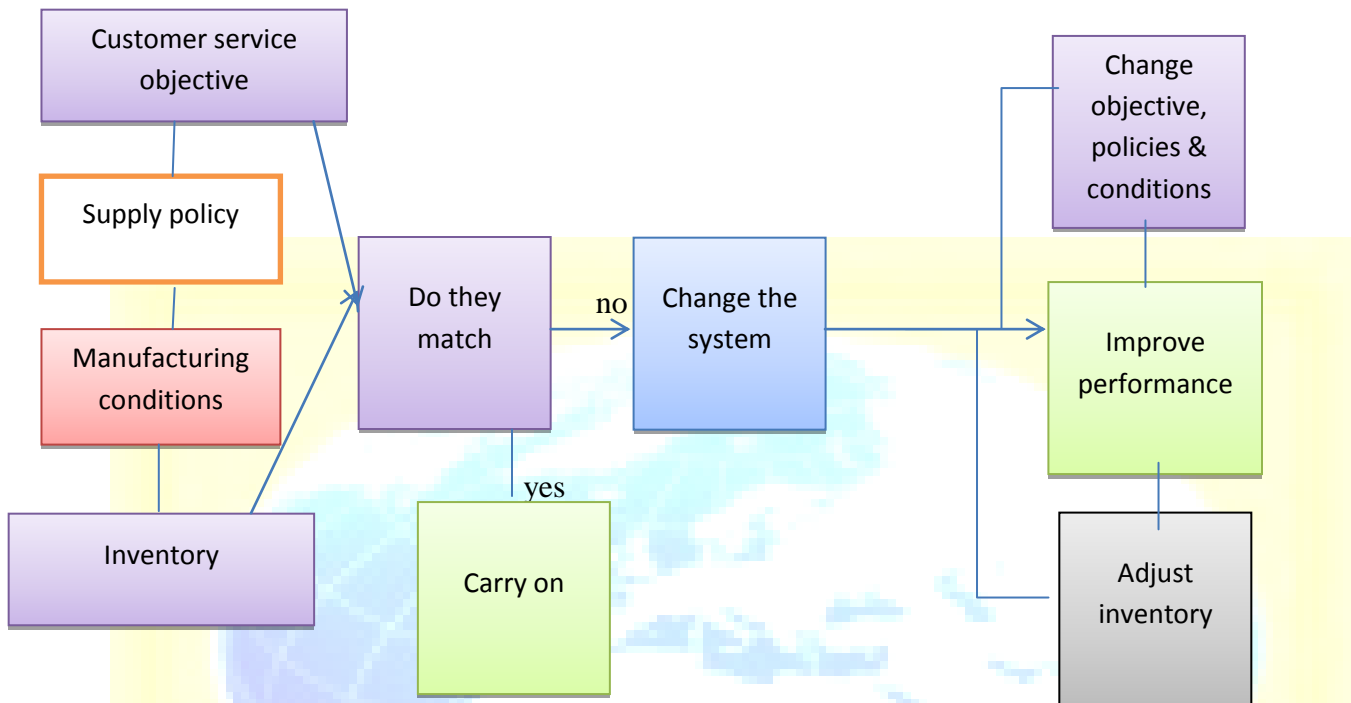
Source: Jack G.A.J. Vandor Vorst; supply chain redesign strategies.

The Global Supply Chain Forum has introduced supply chain model. This framework is built on eight key business processes that are both cross-functional and cross-firm in nature. Each process is managed by a cross-functional team including representatives from logistics, production, purchasing, finance, marketing, and research and development. While each process interfaces with key customers and suppliers, the processes of customer relationship management and supplier relationship management form the critical linkages in the supply chain.

Logistic-supply chain model:

The combination of logistics performance and supply chain pruned up logistic supply chain networking model (LSCNM) which include high degree of linkages between entities in the channel and a market requirement. This networking system changes market requirement into production requirement, production requirement converted into material requirement. It focuses into well-defined planning process with affordable investment in inventory of any SMEs

Figure 3: Model of logistic- supply chain networking model:



Source: Logistic Management-“S.K.Bhattacharya”

Issues of small and medium enterprises for implementing supply chain networking models.

Issues such as new technology, R&D and e-commerce are normally associated with innovations in a supply chain context. SMEs are experimenting with inventories to cut down delivery times but this has not helped much in reality, mainly because of the reasons such as fluctuating orders of buyers and their continuous requirement for change in volume and specifications. In addition, initiatives are not adequately supported by investment in IT and buyer-supplier relationships. In present scenario SMEs are showing their interest in quality improvement, minimization of non-value adding activity, minimization of cost which could be considered as preliminary and short-term goals of SCM. This is mainly because of the reasons that buyer firms are more interested in minimizing the cost of lost sales (or profit maximization) while SME suppliers are more governed by minimization of cost of unsold stocks. Some supplier firms are more exposed to risks since they face greater uncertainties with respect to total number of orders received and the

type of products manufactured. Some supplier firms are more exposed to risks since they face greater uncertainties with respect to total number of orders received and the type of products manufactured.

The present complexity of business dictates in growth stage has forced them to adopt channelization concept in materials requirement planning, enterprise resource planning and supply chain solutions more aggressively. The remaining organizations are reported as less confident of implementing SCM due to reasons like low level of distribution, low level of volume, highly opportunistic environment, low level of trust between trading partners and disturbed cash flow. However, these reasons could be considered as an opportunity to adopt SCM more rigorously

The present orientation of Indian SMEs towards supply chain is quite reactive and fragmented mainly because of the reasons such as (1) expectations to exercise total control; (2) a culture of blame game and inability to understand the long-term rewards; (3) scientific management practices are still considered more suitable for higher volume and large-scale businesses and (4) fear of receiving adversarial effect from large buyers. The firms which have realized the benefits of SCM and turned voluntarily to such initiatives seemed to have focused on a core group of logistics skills (production, design, information management) and delegated or outsourced the peripheral functions of transportation and delivery. The subsequent section narrates some key issues through systematic analysis.

Challenges in supply chain network in SMEs:

In an increasingly uncertain and complex business environment, Supply Chain Management (SCM) is a critical capability for all companies regardless of their size. This is particularly true for small and medium-sized enterprises (SMEs) as they compete on scope rather than scale, which requires an adaptable supply chain. As the backbone of many economies across Asia, SMEs are key drivers of the remarkable growth that the region has achieved over recent years. It is estimated that SMEs comprise more than 98% of the enterprises in the Asia-Pacific region.

SMEs promote business ownership and entrepreneurial skills. They are agile and flexible towards the shifts in supply and demand; attributes that are particularly important in volatile global markets. In addition, SMEs are engines for job creation.

SMEs often lack the SCM expertise that is found in larger companies. SMEs are limited by the insufficient resources and lack of skills required to design, build, and manage an advanced supply chain; capabilities that are critical for their survival. For example, SMEs have a difficult time accessing and understanding their capital requirements and managing finances effectively both domestically and across borders. Without a sound understanding of currency fluctuations, trans-border transactions and associated costs, these organizations struggle to compete. Also, while larger companies capture efficiencies by forming strategic alliances with core suppliers, SMEs are not equipped financially to enter into such partnerships.

There is a notable lack of studies that explore the needs of SMEs given their unique ecosystem and behavior. A better understanding of their challenges can facilitate these businesses, and secure targeted assistance to enhance their performance. The agribusiness SME supply chains for instance, are mostly managed manually. Training these entrepreneurs to use and apply IT tools could improve productivity, and allow them to run their businesses profitably. Access to information can provide a competitive advantage. For example, the availability of real time information on other markets and prices including the retail markets through existing technology such as cell phones can be a key source of advantage.

Some SME's tend to operate their business in a market condition they are most familiar with, and become isolated from innovative business practices. They tend to be naïve about new ways of doing business and satisfied to maintain the status-quo. The notion of value-add and spending on research and development activities is almost absent in this sector.

In general, innovation takes a backseat in the SME sector, and if any innovation takes place, it remains at the individual level. We do find examples where SMEs have innovated in acquiring their fair share of the market at minimal risk. At the same time we also find that there is no active engagement in brand building or product development.

Consolidation can be the key to some of the most prevalent existing SME challenges. An example is exploring the possibility of a cooperative to foster deeper collaboration among the agribusiness sector SMEs. If a number of SMEs operating in the same market segment can be

brought under one umbrella, problems such as finance, new technology, and innovative management practices can be handled effectively. Such an organization could help these enterprises to overcome the disadvantages of their small size and focus on their core competencies, while benefiting from the economies of scale that enhance their competitiveness. For this purpose, we need to identify the SMEs operating in the same market segment. More often than not, most of the SMEs operating in the same market segment operate from the same location forming a cluster. Hence, it can be relatively easy to form an umbrella organization consolidating the SMEs in the cluster. Hence it can be identified that the major benefits of consolidation thereby enhancing the efficiency of the SME clusters.

Advantages of supply chain networking in SMEs sectors:

SMEs are not entirely powerless in today's global market; they have been able to counter the economies of scale of Large enterprises with superior differentiation. By providing products and services that better cater to their customer's needs, SMEs are able to compete against the low cost but commoditized offers of Large enterprises. That being said, this differentiation advantage is fading with the increased capabilities of today's Large enterprises

SCM can help SMEs to improve their business performance. It helps both type of SMEs i.e. strong as well as weak SMEs. A weak SME will choose SCM to interact heavily with partners to create differentiation and to learn from them; it seeks to take value from the relationship. A strong SME will choose SCM to add and leverage its differentiation value while increasing its bargaining position in the network by having other partners rely on it for the value-adding differentiation. SME-SCM issues – exploration SCM is a systems approach which aims to make the organization/function more agile and cost effective by integrating the processes of various partners at all the three levels – strategic, tactical and operational. The profitability of the SME may well be critically determined by an ability to obtain supplies of the right quality, on time and at the most favored prices. Skills are needed in dealing with their own supply network to ensure that

Group no. Group Issues covered Group I Supply chain integration Includes supply chain integration decisions like use of IT, partnering, collaboration, alliance, etc. Group II Strategy and planning Includes strategy and planning issues of SMEs and their links with SCM Group III

Implementation Highlights implementation difficulties in SCM-based decisions like change in culture, need for IT solutions, competition, owner manager's impact, buyers (OEM) expectations, etc.

According to World economic forum report if all countries reduce supply chain barriers half way to global best practice, Global GDP could increase by 4.7% and world trade by 14.5%. It is more effective because it minimizes resource wastages and reduce cost of trading firms and by extension lower prices to consumers and businesses. We can understand through some practical example of a country i.e. In African countries, the poor quality infrastructure services can increase the input material cost of consumer goods by upto 200% and in Madagascar, supply chain barriers can account for about 4% of total revenue of a textile producers, corroding the benefit of duty free access to export markets.

Conclusion:

This paper has explored the various aspect of supply chain networking in small and medium enterprises. As literature make clear that all researcher and practitioner have raised very valuable questions like- how to implement the supply chain network in different size of SMEs? Is really size matter in supply chain performance? Is it essential to focus on various models to channelize the SMEs performance?

The major issues has been discoursed is innovation in supply chain model. The New technologies, supplier's relationship, mode of transport, inventory management science are the raising issues for the Small scale industries. They think they can maximize their profit by ignoring these issues. But they are left behind in globalization culture. No doubt if these issues are resolved the SMEs share can be increased up-to 14.5% in world trade. Key issues that can improve SMEs performance in productivities are collaboration, innovations and coordination. Time management and inventory management that include logistic supply chain model give the lowest cost solution for increasing the small size firms.

The world economic forum predicts that how an improvement in administration and transportation and telecommunications infrastructure and service could result an increment of 4.7% increases in global GDP. This report conclude that SMEs sector would witness increased trade with solution to specific constrain that affect smaller companies.

Hence in spite of having lots of challenges and issues Supply chain networking improve the productivity of SMEs. Serious attention should be given to the organized private sector-led model of SME internationalization support provision. By studying the size, nature and capability, we can construct networking model and can reduce the unnecessary cost. This reduced cost will be helpful for expending the investment

Reference:

1. Giacomo Liotta; (2012), "Simulation of supply chain network: Source of innovation and competitive advantage for small and medium enterprises" , Technology innovation management review.
2. Bhattacharya S.K. (2008), "logistic Management: Definition, Dimension and Functional Application", S.Chand& Company Ltd, 2nd revised edition, ISBN- 81-219-2885-0, page no.13-30.
3. Paik Seung-Kuk (2011), "supply management in small and medium enterprises: Role of SMEs size", International journal of Supply chain Forum, Volume- 12, issue no-3.
4. Lloyd M. Rinehart, Tzong-Ru Lee and Thomas J.Page, Jr (2008), "A Comparative Assessment of Domestic and International Supplier-Customer Relationship Perceptions", International Journal of Physical Distribution & Logistics Management, Vol. 38 No. 8, pp. 616-636.
5. Min. Soonhong., Mentzer, John T. and Ladd, Robert T., (2007), "A Market Oreintation in Supply Chain Management", Journal of Academy of Marketing Science, Vol.22, pp. 14-27.
6. Seth Nitin, Deshmukh S.G., VratPrem (2006), "A conceptual model for Quality of Service in the Supply Chain", International Journal of Physical Distribution & Logistics Management, Vol. 36 No. 7, pp. 547-575
7. Das, R., & Das, A. K. (2011). Industrial Cluster: An Approach for Rural Development in North East India.International Journal of Trade, Economics and Finance, 2(2), 161–165.
8. Ghalayinin, A. M., Noble, J. S., & Crowe, T. J. (1997). An integrated dynamic performance measurement system for improvingmanufacturing competitiveness. International Journal of Production Economics, 48, 207–225.
9. Sonia and Kansai Rajeev (2009), "Globalisation and its impact on Small Scale Industries India" ,PCMA Journal of Business, Vol. 1, No. 2 (June, 2009) pp. 135-146, ISSN0974-9977,

10. Overby, J. W., & Min, S. (2001). "International supply chain management in an internet environment: A network-oriented approach to internationalization". *International Marketing Review*, 18(4), 392-419.
11. Zulkifi Siti (2009), "A literature analysis on the supply chain operational capabilities in Malaysia small and medium enterprises", 3rd international conference on operational and supply chain management Malaysia (ISMSCM), pp 1-13.
12. Malhotra Sanjeev (2012), "Role of customer services in supply chain management: A critical research and theoretical framework", volume -2 , Issue -7, ISSN- 2249-7137;
13. Sanjaka B.P.(2012), "supply chain risk & small, medium manufacturing enterprises in south Africa ", CIE & SAIIE, CIE 42 proceeding, South Africa.
14. Koster-Davos,(2013), " Report: Reducing supply chain barrier could increase global GDP upto 6 times more than removing all import tariffs", World economic Forum in collaboration with Bain & company and the World bank.
15. Thakkar Jitesh, Kanda Arun, Deshmukh S.G., (2012) "Supply chain issues in Indian manufacturing SMEs: insights from six case studies", *Journal of Manufacturing Technology Management*, Vol. 23 Iss: 5, pp.634 – 664
16. David L Anderson, Frank F. Britt and Donavon J. Faure : "7 principle of supply chain management" , *Ten classics from supply chain management*.
17. Jack G.A.J. Vandor Vorst (2002): "Identifying sources of uncertainty to generate supply chain redesign strategies." *IJPDLM*, 32, 6.
18. Balaji L.N. & Kumar Sandeep (2013): "How to reduce cost through supply chain network optimization" *Industry Week- Advancing the business of manufacturing*.