
A Review on Supply Chain Management (SCM) by SMEs as a Strategy to Achieve Global Competitiveness

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Abstract

Small and medium enterprises play a vital role in the economy worldwide as they provide great opportunities for employment. Unfortunately, research shows that a very small percentage of SMEs scale upto the next levels and become large scale enterprises. This is due to several inherent issues and challenges of these enterprises and lack of support from stakeholders on many occasions. This appears to be a global phenomenon and the situation is similar in India too. For SMEs to achieve the global competitiveness, it is observed by researchers that they need to upgrade their technology and strategies in many aspects of managing their enterprises. Supply chain management is found to be one of the best alternatives to enable them to become globally competitive and scale up the enterprise to the higher levels. This study focuses on researchers on issues and challenges faced by SMEs in the implementation of SCM, and how SCM can be useful to SMEs for becoming globally competitive.

Key words : *SME, SCM, Global Competitiveness, Stake Holders*

Introduction

Small and medium size enterprises contribute to a great extent to the industrial growth of any country. They are considered as the backbone of overall industrial development of any country for creating jobs, reducing inequality of income distribution, encourage entrepreneurship and provide a platform for creativity and innovation. In India too, SMEs, contribute to the overall growth of economy in terms of exports, industrial production, creation of employment, promotion of entrepreneurs segment. According to Economic times Report 2013 (June 9) SMES share in employment is 17% of GDP, 40% of India's work force in industrial sector, 40% in export trade, production of approximately 8000 products in the country by 48.8 million SMES which is second largest in the world after China. Some of the firms which started as SMEs in India have grown up to the extent of becoming global companies. For example, currently leading manufacturing companies in India like, Lucas-TVS Ltd., Indo-Gulf Fertilizers Ltd., Sundaram Clayton Ltd. (Brakes Division), Sonakoyo

Steering Systems Ltd., SRF Ltd, and Rane Brake Lining Ltd., have won the Deming application prizes previously.

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But, unfortunately due to their inherent characteristics regarding issues and challenges, majority of the SMEs do not scale up to the next. One of the major reasons was that SMEs did not give much importance to development of strategy for achieving competitiveness (Rajesh K. Singh, et. al, 2008) as they focused more on short-term goals and have no formal framework towards long-term goals. SMEs can be globally competitive if they can manage their supply chains effectively (Dangayach G.S. and Deshmukh S. G. 2004; Chin et al., 2010, Jitesh Thakkar 2012, Coyle 2013). The present study focuses on how SMEs can achieve global competitiveness by implementing the Supply Chain Management (SCM) strategies effectively.

Need of the study

Majority of researchers accept the fact that there is lack of adequate literary contribution on the implementation of supply chain for achieving global competitiveness among SMEs as compared to large scale companies (Milind Kumar Sharma, 2005; Lenny Koh et. al, 2007, Terje I. Valand et. al, 2007). Therefore, there is a need to study the literature to understand strategies and practices of SCM for achieving global competitiveness in future by the SMEs.

Objectives of the Study

The objectives of the present research are,

- To study the issues and challenges for achieving global competitiveness by SMEs
- To study the role of SCM in SMEs
- To study the challenges for SMEs in the implementation of SCM
- To identify the relevant practices of SCM through which the global competitiveness can be achieved by SMEs
- To develop a comprehensive supply chain framework useful for SMEs to achieve global competitiveness

Methodology adopted

The study is a literature review of publications related to the role of SCM in SMEs for achieving the global

competitiveness. The published articles from databases like Proquest and Emerald, reports of Deloitte, CII, NIMSME, MSMEDI, FAPCCI and management journals like Material Management Review (MMR) were considered for the study.

SMEs in India

The categorization of Micro, Small and Medium enterprises for manufacturing sector by the Govt. of India based on Capital Investment is as below:

- a. Micro enterprise**, if investment in plant and machinery does not exceed twenty five lakh rupees;
- b. Small enterprise**, if investment in plant and machinery is more than twenty five lakh rupees but does not exceed five crore rupees; or
- c. Medium enterprise**, if investment in plant and machinery is more than five crore rupees but does not exceed ten crore rupees;

Performance of MSME Sector in India

The performance of MSMEs in India has been consistently growth-oriented since 2001-02. Table-1 below indicates the details of this growth and the projected growth rates upto 2012-13 (as per the latest census done by Ministry of MSMEs in India in 2012-13).

Global Competitiveness

In today's competitive business environment, it's not just enough to meet the usual challenges, but in addition to this, the most important aspect to be considered with highest priority is the management of supply chain of SMEs (Soh and Roberts, 2005; Bennett and O'Kane, 2006). In order to achieve global competitiveness, SMEs should have access to well-developed infrastructure (communication, transportation, banking, and markets) appropriate socio-economic and political policies plus effective institutions, which are congenial to conduct business. (Gabriel Baffour Awuah et al, 2011). The authors also developed a framework as shown in Figure – 1 below for global competitiveness of SMEs.

Table - 1 : Performance of SSI / MSME

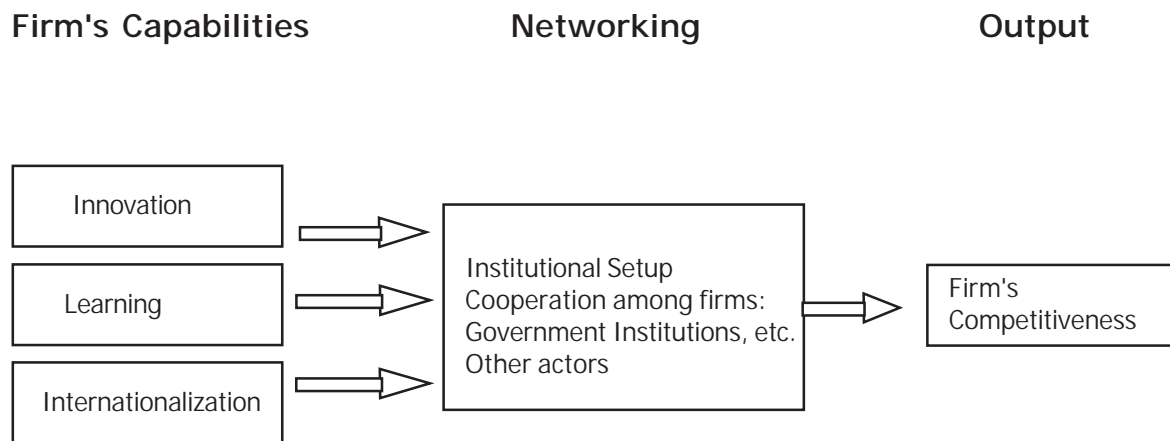
S.No.	Year	Total Working Enterprises (In Lakhs)	Employment (In Lakhs)	Market Value of Fixed assets of Fixed Assets (In Crores)
1	2001-02	105.21	249.33	154349.00
2	2002-03	109.49	260.21	162317.00
3	2003-04	113.95	271.42	170219.00
4	2004.05	118.59	283.57	178699.00
5	2005-06	123.42	294.91	188113.00
6	2006-07	361.76*	805.23*	868543.79**
7	2007-08	377.37	842.23	920,459.84
8	2008-09	393.70	881.14	977,114.72
9	2009-10	410.82	922.19	1038,546.08
10	2010-11	428.77	965.15	1105,934.09
11	2011-12	447.73	1011.80	1183,332.02
12	2012-13	467.56	1061.52	1,269.338.02

* Including activities of wholesale/retail trade, legal, education & social services, hotel & restaurants, transports and storage & warehousing (except cold storage) for which data were extracted Economic Census 2005, Central Statistics Office, M/o SPI.

** Estimated on the basis of per enterprises value obtained from sample survey of unregistered sector for Activities wholesale/retail trade, legal, education & social services, hotel & restaurants, transports and storage & warehousing (except cold storage) which were excluded from Fourth All India Census of MSME, unregistered sector

Projected

Figure 1



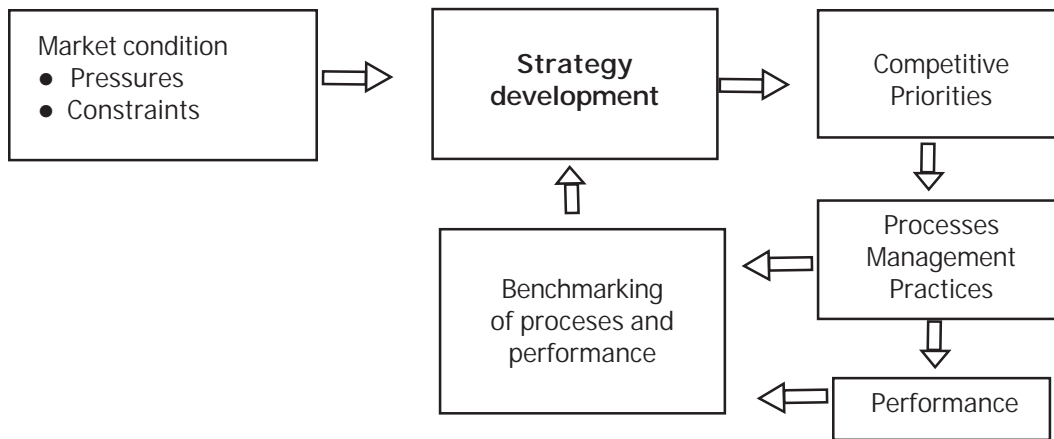
Source: Gabriel Baffour Awuah, (2011)

Rajesh K Singh (2008) identified, the following pre-requisites for SMEs to achieve global competitiveness and developed a framework for the competitiveness of SMEs as shown in Figure 1

- Development of Strategy
- Focus on competitive priorities like Cost, Quality, Delivery and Flexibility
- Top management commitment
- Development of alliances
- Organization Culture
- Clean and green production
- Innovation and Knowledge Management
- Research and Development
- Supplier and Vendor Development
- Total Quality Management
- Supply Chain Management
- Technology Management
- Information Technology Applications
- Continuous measurement of performance and competitiveness

Competitiveness by SMEs is linked to the importance given for innovation and creativity by enterprises. A quantitative measurement model linking these two was developed (M.A. Mario Alberto Martínez Rojas, 2013) through an empirical study of 65 SMEs in Mexico and it was concluded that a direct relationship exists between innovation activities and competitiveness replicated in the operations of those companies. Cost competitiveness, Product competitiveness, Knowledge Management, Relationship Management, Networking, Information Sharing, Mutual specialization and Co-Innovation are some of the most important strategies to achieve competitiveness by SMEs.

Figure – 2: Framework for analysis of SME's competitiveness



Source: Framework for Competitiveness Analysis (Source: Rajesh K Singh and Suresh Garg)

Proper knowledge management (KM) and Intellectual Capital (IC) are found to make SMEs globally competitive (Guillermo Vazquez- Avila, et al. 2012).

Supply Chain Management as a strategy to achieve global competitiveness for SMEs

SCM is defined as an integrating and managing the total flow of a distribution channel from supplier to ultimate customer. Supply chain management (SCM) generally refers either to management of activities which include, sourcing, purchasing, procurement, manufacturing, delivering goods or services to customers, management of all members of the chain to a process or integrated systems oriented management approach. SCM constitutes a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses, and retailers, so that merchandize is produced and distributed in the right quantities, to the right locations, and at the right times in order to minimize system-wide costs while satisfying service level requirements (Simchi-Levi et al., 2000).

SCM plays an equally important role in MSMEs as in large scale enterprises. The key objective and purpose of SCM is to increase the coordination and cooperation in decision-making across the chain in areas like development of product, process of procurement,

process and production related areas, strategies for marketing and modes of distribution. The outcome of SCM is to achieve process efficiency, cost reduction, enhanced customer service and achieving the overall competitive advantage. Proper implementation of SCM strategies and practices in MSMEs can fill all the gaps related to information sharing in the areas of transportation and logistics, planning for capacity, accurate forecasting of demand, understanding the needs of customer and their requirements, effective inventory management, minimizing the lead time, minimizing the delivery time to the customer and providing value-addition to the product or service and increase the competitiveness.

Developing Efficient Supply Chain

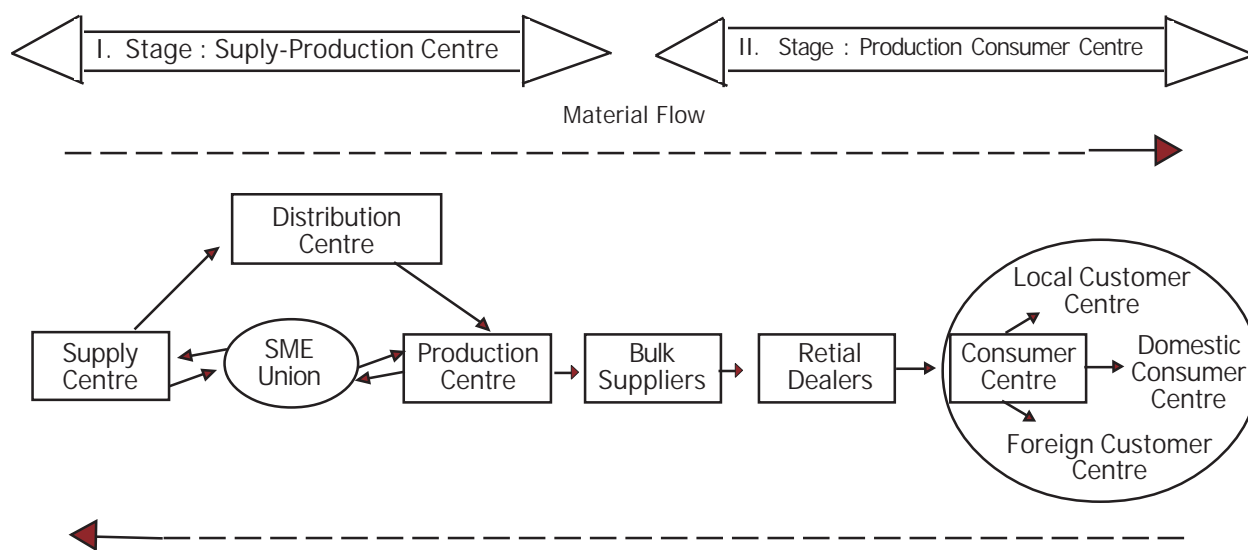
It is found that many organizations are able to develop SCM through various interactive methods such as sharing of information with chain members, risk pooling, sharing of profits and benefits, setting mutually agreeable objectives and goals, developing relationships with mutual trust, coordination and cooperation, and integration of activities across the chain. Seuring (2004) divides the supply chain strategies into five components. *Physical resources* - Flow of raw material, semi-finished and finished goods, information, *Content resources*: Infrastructural resources like logistics and production, *Actors*:

Members of supply chain network and all other stakeholders, *Cooperation*: Upstream and Downstream cooperation through integration of activities of chain, *Targets*: Improving overall supply chain performance in terms of overall profit targeting.

A composite framework was developed by incorporating factors which influence the success of trading relationships, activities related to the production in SMEs, and needs and necessities of SMEs in terms of strategic and operational functions (Neil Towers and Beranrd Burnes, 2008). This framework also brings to limelight the gaps, conflicting objectives, differences among the above three factors considered for developing it. Dangayach G.S. and Deshmukh S. G. (2004) in their study found that Indian SMEs are giving more importance to quality compared to

flexibility. In fact, they have been giving very low importance to flexibility. It is also found that the Indian SMEs are giving very less importance to advanced manufacturing technology. The study recommends that in order to achieve the objectives of performance in manufacturing, SMEs have to immediately adopt advanced manufacturing technology which will also enable them to focus on the competitive priorities like Cost, Quality, Delivery and Flexibility. SCM is found to increase the agility and flexibility in manufacturing, delivery speed, decrease the cost of transportation, increase the sharing of information and thus helps the top management of organizations involved in this chain to achieve increased profits and efficiency. Following flow diagram explains the connectivity in all processes of production.

Figure – 3: Supply Chain Management Model for SMEs



Source: Hatice Calypınar (2007), "A Theoretical Model Proposal in Supply Chain Management for Turkish SMEs", Problems and Perspectives in Management, Vol. 5, Iss. 2, pp 90-98

SMEs were found to be working with a traditional and conservative approach by focusing only on localized benefits which restricted their growth and scope of business (Jitesh Thakkar et al, 2008). It is suggested that SMEs can look at SCM as a tool to develop strategies for improving their performance and sustain in the competitive market. They should take the advantage of SCM for maintaining mutual

and useful relationships with manufacturers and large companies to obtain the operating leverage. They can look at manufacturers to gain mutual advantage and profits. With the help of mutual coordination, the SMEs can look at minimizing the waste and reducing the levels of inventory at various levels. Implementation of SCM can aid the SMEs in minimizing fluctuations in

demand by increasing the levels of appropriate demand forecasting. SMEs can improve their cash and inventory flow with the help of SCM (Jitesh Thakkar et al., 2008).

Decrease in cost of manufacturing, cost of logistics, lead time, delivery time and increase in productivity, sales growth, overall profit and market share are reported in the literature due to the implementation of SCM practices and integration of business strategy (Premaratne Samaranayake, 2005). Many authors opined that companies can achieve distinctive competitive position through supply chain (Tracey, Lim & Vonderembse, 2005, Chopra & Meindl, 2013). Companies can achieve competitive advantage when they manage firms in upstream supply chain (related to activities of suppliers) and firms in downstream

supply chain (related to distribution of product to customers) (Handfield and Nocholas, 1999) which enhances the overall profit of an organization (Martin Christopher, 1998; Simchi Levi, 2000; Chopra & Meindl, 2012; Tan, 2001; Tan, Lyman, & Wisner, 2002; Tracey, Lim, & Vonderembse, 2005). SCM enables MSMEs in achieving competitive position in the market through an efficient management of supply chain related activities (Quayle, 2003). Supply chain integration, mutual coordination and cooperation among all the stakeholders of supply chain improve the competitive position (Tan, 2001). Martin Christopher and Matthias Holweg (2011) emphasized that supply chain in SMEs needs to be managed by considering and integrating volatility by looking at it as an opportunity and not as a risk.

Major findings from the Review:

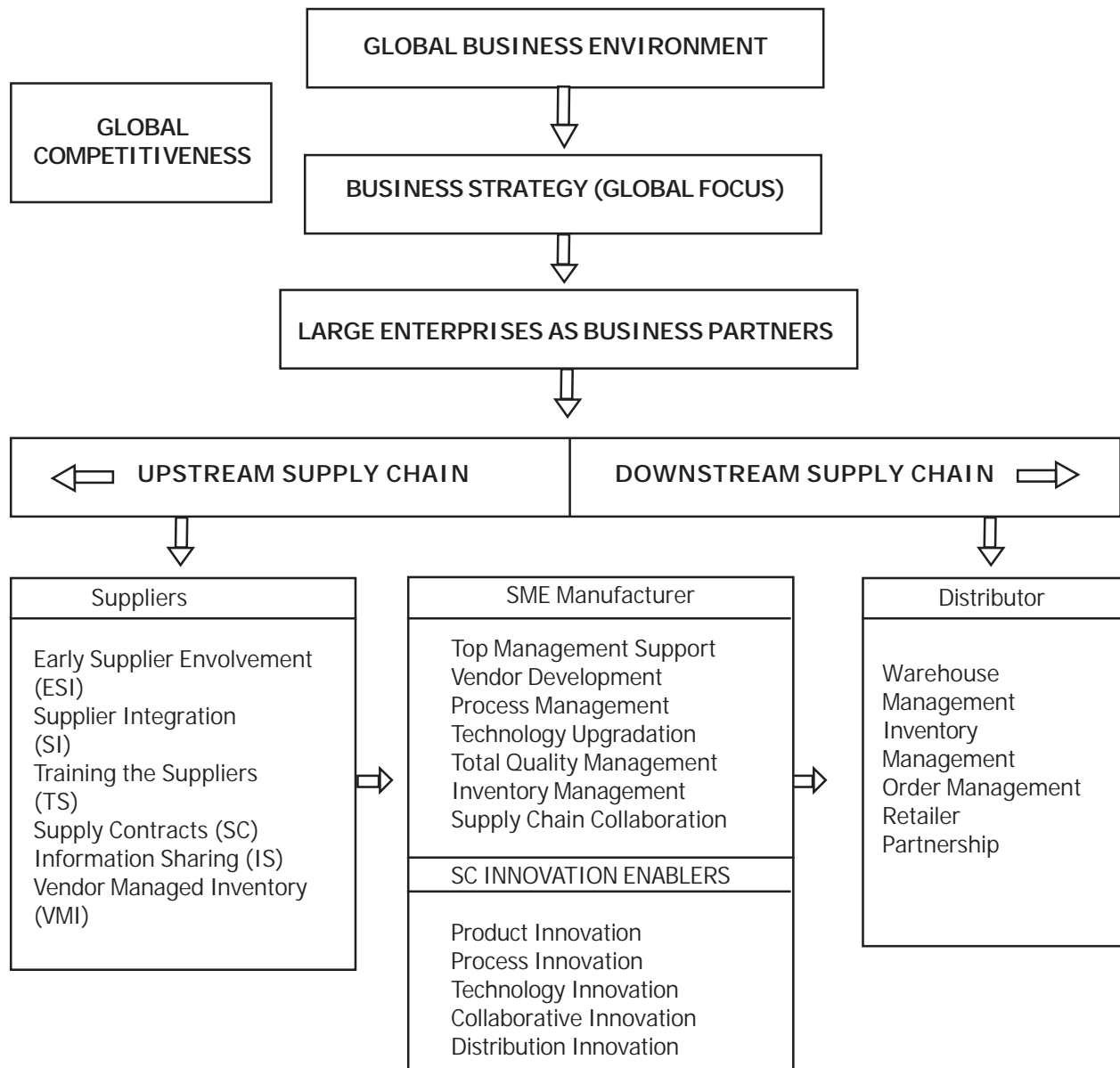
For the SMEs to achieve global competitiveness, SCM is found to be one of the best ways by many authors as mentioned in the literature review. Thus, on the basis of above analysis, linkages between Global Competitiveness and Supply Chain Management strategies for SMEs are essential in the following way listed in Table - 2.

Table – 2: Linkage between Global Competitiveness and SCM Strategies for SME

Strategies for achieving global competitiveness	SCM Strategies which support for achieving global competitiveness
Global focus and achieving competitive position	Vendor Managed Inventory (VMI), Implementation of supply chain practices like information sharing
Professional Strategy Development	
Focusing on competitive priorities like Cost, Quality, Delivery and Flexibility, Clean and Green production, Innovation and Knowledge Management, Intellectual Capital development, Research and Development, Learning, Adaptability and Global focus	Coordination with suppliers, and distributors and Early Supplier Involvement (ESI), Information Sharing with stakeholders of supply chain
Development of Alliances, Diversification and Network development.	Supply Chain Collaboration (SCC), Information Sharing with Suppliers, Sharing production schedules with suppliers.
Continuous improvement, building up reliable, consistent, value-adding and productive systems and processes, networks and flexibility	
Top management commitment and Organization Culture .	Networking with other companies, Internal departmental coordination towards SCM;
Supplier and Vendor Development and Supply contracts	Training Suppliers, Supplier Relationship Management, Vendor Evaluation and Rating.

Continuous measurement of performance and competitiveness	Supply Chain Integration and Coordination, Implementation of IT enabled systems through the chain, Achieving operational efficiency through SCM.
Well-developed infrastructure (communication, transportation, banking, and markets)	
Process Management, Overall cost reduction and increased profits .	

Fig-4: Supply Chain Framework for Global Competitiveness for MSMEs



From the above table it is evident that implementation of SCM aspects and strategies have a direct impact on the overall performance of SMEs. It can be concluded that SMEs can depend on supply chain management strategies for improving their overall operational efficiency, become globally competitive by offering the customers value-added, reliable, low cost and high quality products and services.

A Model Framework for achieving Global Competitiveness for MSMEs

Based on the above discussions, analysis and findings, the author proposes the following framework for the MSMEs to achieve Global Competitiveness.

Conclusion:

The above framework provides an opportunity for SMEs to achieve global competitiveness by focusing on Supply Chain strategies. It links business strategy with business environment of the enterprise. It provides a linkage between large enterprises and SMEs. In order to be globally competitive, SMEs have to depend on large enterprises and be their partners for a mutual benefit. Next it links the very important stakeholders of SME supply chain, the supplier, the SME manufacturer and the distributor who are the major part of upstream and downstream supply chain. Strategies of supply chain management play a very important role at all of these stages and each strategy is interlinked with the other. The SC innovation is enabled by innovation of product, process, technology, collaboration and distribution. The above framework can be implemented by SMEs to achieve the global competitiveness.

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