

## IMPACT OF SUPPLY CHAIN MANAGEMENT COMPONENTS ON THE ORGANIZATIONAL PERFORMANCE OF MANUFACTURING ENTERPRISES

**Dr. R. V. Suresh**

Associate Professor, Department of Management (PG) & Research, VLB Janakiammal College of Arts & Science, Kovaipudur Main Road, Coimbatore - 641042.

**Dr.K.Mahalakshmi**

Assistant Professor, Department of Commerce, Government Arts and Science College, Reddiyarchatram, Dindigul.

**Dr.S.Mangaiarkarasi**

Assistant Professor, Department of Business Administration, Government Arts and Science College, Reddiyarchatram, Dindigul

**S. Mahalingam**

Associate Professor, Department of Management Studies, CK College of Engineering and Technology, Jayaram Nagar, Chellangkuppam, Cuddalore - 607003

**Abstract:** Modern industrial businesses can't function without effective supply chain management (SCM). To supply products in a timely, efficient, and cost-effective way, it involves a collection of operations that enable the transportation of goods and services from raw material suppliers to end consumers. Procurement, manufacturing, shipping, storage, inventory management, and demand forecasting are all parts of supply chain management (SCM). Organisational effectiveness in manufacturing businesses is directly tied to how well these factors are managed. In the context of manufacturing businesses, this essay will investigate the many aspects of SCM and how they affect operational effectiveness. After reviewing the literature on manufacturing companies' supply chain management components, competitiveness, and organisational performance, a conceptual model was developed and its underlying assumptions were tested in the lab. The study's assumptions were tested via in-person interviews with the CEOs of these industrial enterprises after a well-structured questionnaire was delivered to them.

**Purpose:** To examine the impact of SCM components and SCP on organizational performance of manufacturing enterprises.

**Research design/ methodology:** A well-structured questionnaire was sent to the executives of these industrial companies, and the proposed research hypotheses were tested through questionnaire (google form). For the study, the manufacturing and service sectors are taken into account. Through the questionnaire, it is determined from the respondents how supply chain management is used and how it affects firm performance (performance based on sales). A sample size of 250 people was used in the investigation by using convenient random technique.

Findings: It is understood from the result that the moderately experienced respondents have more Impact of Supply Chain Management components on the Organizational Performance of Manufacturing Enterprise

Implications: For the smooth operation of any firm, this is also a must. Businesses that advocate for organisational competency in supply chains should first integrate their internal operations in order to develop supplier and customer integration with little initial resources.

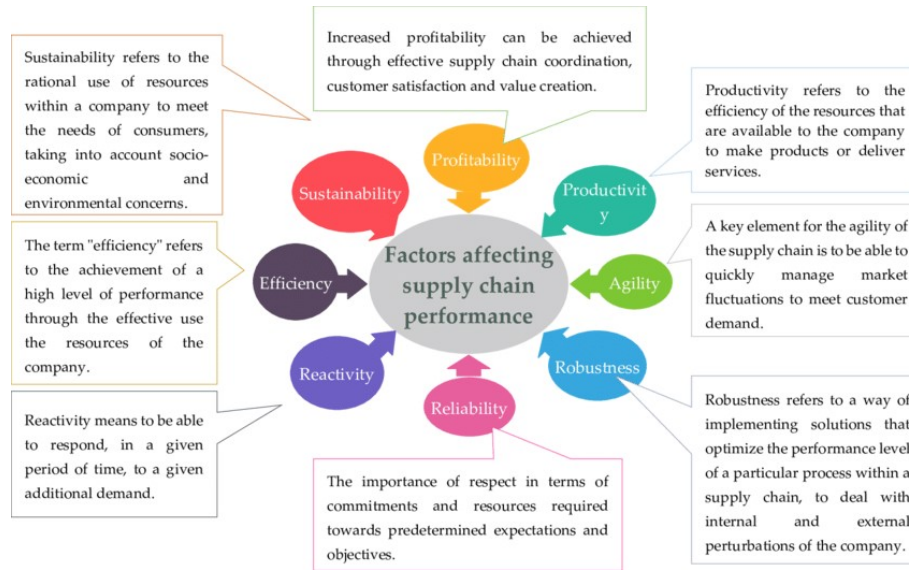
**Key words: *Organisational performance, manufacturing, logistics, and supply chain performance management***

#### Introduction

(SCM) is a complicated topic that has a significant impact on whether a manufacturing company succeeds or fails. The current corporate climate is more global and competitive than ever before, and it encourages rapid product iteration and constant innovation. The information technology revolution has also resulted in a client base that is exceptionally savvy, tech-savvy, and well-informed. As a result, firms must ramp up their creativity and rivalry in order to be ready to respond swiftly. That's why any changes made from the beginning to the end should be well received. Better still, it improves the quality of the organization's overall output by raising the bar on deliverables, responses, goods, and services. The company must appreciate the value of SCM and its procedures if it is to maintain a competitive edge. According to the Global Supply Chain Forum (GSCF; Lambert et al., 1998), "Supply Chain Management is the integration of key business processes from end user through original suppliers that provide products, services, and information that add value for the customers and other stakeholders." The supply chain helps businesses grow by connecting them with new clients and vendors. The supply chain's primary functions are to get raw materials from vendors, transform those materials into a finished product, and distribute that product to customers (Levi et al., 2004). The supply chain encompasses all the entities directly or indirectly involved in fulfilling a customer order. Producers, distributors, shippers, warehouses, retailers, and even end users are all included Controlling and integrating critical informational components into the supply chain reportedly had an effect on its performance, as stated by Gunasekaran (2003) and Sufian (2010). In order to successfully integrate their supply chains, organisations must use information technology. You may read about hand field in both Nichols (1999) and Sufian (2010).Information technology will have a direct impact on the significance of supply chain efficiency, according to a study by Byrd and Davidson from 2003. In addition, they predicted that increased company performance in terms of ROI, ROE, and market share would follow from the creation and sustained usage of IT.

Figure: 1

Supply Chain Management components on the Organizational Performance



### Supply Chain Management components on the Organizational Performance

1. Procurement is a crucial component of SCM that involves the acquisition of raw materials, parts, and other resources necessary for production. Efficient procurement practices, such as strategic sourcing, supplier selection, and negotiation, can positively impact the organizational performance of manufacturing enterprises. For instance, by identifying reliable suppliers and negotiating favorable terms, a manufacturing enterprise can reduce procurement costs, minimize lead times, and ensure a stable supply of materials, which in turn can lead to improved production efficiency and reduced production costs. Additionally, effective procurement practices can result in higher quality inputs, reducing the likelihood of production defects and rework, and improving product quality, customer satisfaction, and brand reputation.
2. Production is another critical component of SCM that encompasses the processes involved in converting raw materials into finished products. Lean manufacturing, for example, focuses on eliminating waste and optimizing production processes, leading to reduced production lead times, increased production efficiency, and improved product quality. JIT production emphasizes producing only what is needed, when it is needed, to minimize inventory costs, reduce storage space requirements, and improve responsiveness to customer demand. TQM focuses on continuous improvement, employee involvement, and customer satisfaction, leading to improved product quality, reduced defects, and enhanced customer loyalty. All these production practices can result in cost savings, improved productivity, and increased competitiveness for manufacturing enterprises.
3. Transportation and warehousing are critical components of SCM that deal with the movement and storage of goods within the supply chain. For instance, effective transportation management, including route optimization, carrier selection, and shipment tracking, can lead to reduced transportation costs, shorter lead times, and improved order delivery performance. Efficient warehousing practices, such as optimized inventory storage, order picking, and packing, can result in reduced storage

costs, faster order fulfillment, and improved order accuracy. These factors contribute to enhanced customer satisfaction, increased customer retention, and improved organizational performance.

4. Inventory management is a crucial component of SCM that deals with the control and optimization of inventory levels throughout the supply chain. Efficient inventory management practices, such as demand forecasting, safety stock management, and order quantity optimization, can impact the organizational performance of manufacturing enterprises. Accurate demand forecasting allows manufacturing enterprises to anticipate customer demand and adjust production and inventory levels accordingly, reducing the risk of stock outs or overstocks. Effective safety stock management ensures that buffer stock is available to meet unexpected demand fluctuations or supply disruptions, minimizing stock outs and production disruptions. Order quantity optimization, such as economic order quantity (EOQ) and just-in-time (JIT) inventory management, aims to minimize inventory holding costs while ensuring adequate stock levels.
5. Demand forecasting is a critical component of SCM that involves estimating customer demand for products and services. Accurate demand forecasting enables manufacturing enterprises to align production, procurement, transportation, and inventory management activities with expected demand, leading to improved organizational performance. For instance, accurate demand forecasting allows manufacturing enterprises to optimize production levels, minimize stock outs,

Key elements of organizational competence in manufacturing industries:

Compelling organisational traits that connect to supply chain integration competences could make it easier for organisations to tackle both intra- and inter-organizational tasks cooperatively. They're great at bridging the gap between internal departments and SCM, which boosts a business's competitiveness. Organizational competence in manufacturing industries refers to the collective capabilities, skills, and resources of an organization that enable it to excel in the competitive landscape of the manufacturing sector. It encompasses various aspects, including leadership, strategic planning, operational efficiency, innovation, quality management, supply chain management, and employee skills development. Here are some key elements of organizational competence in manufacturing industries:

1. Leadership: Effective leadership is crucial in driving an organization's success in the manufacturing industry. Competent leaders provide clear vision, set strategic goals, make informed decisions, and motivate and engage employees to achieve organizational objectives. They also foster a culture of continuous improvement and innovation, and create an environment that encourages collaboration and teamwork.
2. Strategic Planning: Organizations need to have a well-defined and forward-looking strategic plan to guide their operations in the manufacturing sector. This includes setting realistic goals, identifying market opportunities, analyzing risks, allocating resources effectively, and adapting to changing market conditions. Strategic planning also involves aligning the organization's goals with its overall business objectives and

ensuring that the manufacturing processes are integrated into the broader organizational strategy.

3. **Operational Efficiency:** Manufacturing organizations need to continuously improve their operational efficiency to stay competitive. This includes optimizing production processes, reducing waste, improving productivity, and implementing lean manufacturing principles. Efficient use of resources, such as raw materials, labor, and energy, is critical to minimizing costs and maximizing profitability.
4. **Innovation:** Innovation is a key driver of success in the manufacturing industry. Organizations need to continuously invest in research and development, product design, and process improvement to stay ahead of the competition. This includes adopting new technologies, improving product features, and finding more efficient ways to manufacture products. Organizations that foster a culture of innovation and encourage creativity among employees are more likely to be successful in the rapidly evolving manufacturing landscape.
5. **Quality Management:** Ensuring high-quality products is essential in the manufacturing industry to maintain customer satisfaction and reputation. Organizations need to have robust quality management systems in place, including comprehensive quality control processes, adherence to industry standards and regulations, and continuous monitoring and improvement of product quality. This includes implementing quality assurance measures, conducting regular inspections, and addressing any quality issues in a timely and effective manner.
6. **Supply Chain Management:** Manufacturing organizations rely on complex supply chains to source raw materials, manage logistics, and deliver finished products to customers. Effective supply chain management is crucial to ensure timely availability of materials, optimize costs, reduce lead times, and manage risks such as disruptions in the supply chain. This includes building strong relationships with suppliers, implementing effective inventory management practices, and leveraging technology to improve supply chain visibility and coordination.
7. **Employee Skills Development:** Skilled and motivated employees are a valuable asset in the manufacturing industry. Organizations need to invest in employee training and development programs to enhance their skills, knowledge, and capabilities. This includes providing regular training on new technologies, safety procedures, and best practices, as well as fostering a culture of learning and continuous improvement. Engaged and skilled employees are more likely to contribute to organizational success by being more productive, innovative, and committed to their work. The organizational competence in manufacturing industries is multifaceted and encompasses various elements, including leadership, strategic planning, operational efficiency, innovation, quality management, supply chain management, and employee skills development. Organizations that excel in these areas are better positioned to succeed in the competitive landscape of the manufacturing sector.

## Supply Chain Management Practices and Challenges

Business is becoming increasingly globalized, and this is changing how businesses operate. The client stands to gain the most from the global competition that has emerged. He can choose what he wants to buy from a variety of choices thanks to the options he has at the moment, and he can also set the terms. Companies introduce products with cutting-edge features with the primary goal of attracting customers, which has resulted in short product life cycles. The manufacturer's dependence on numerous vendors for the supply of the essential components has made the overall system complex. Many businesses began implementing novel strategies to lower the expense of adhering to global pricing standards. According to certain opinions, the business should be reorganized to give enterprises the benefit of volume and enable them to make goods at the required cost advantage. International businesses are utilizing their centralized resources for product creation at many locations throughout the globe. These resources include design and research and development. Not only that, but for cost-saving reasons, businesses are now focusing on their core competencies and outsourcing all other tasks. Building a system that makes it easier to track internal performance in the business is therefore insufficient; the system also needs to be adaptable enough to guarantee that important suppliers to the business execute their respective tasks on time. Therefore, a supply chain that aids in getting the best performance from your suppliers can provide you a definite competitive advantage. SMEs often face unique challenges in managing their supply chains due to their size and resources. However, effective SCM practices can help SMEs overcome these challenges and achieve improved performance in several key areas.

1. **Cost Efficiency:** Efficient SCM practices can help SMEs optimize their supply chain processes, reduce costs, and enhance profitability. By streamlining procurement, inventory management, transportation, and warehousing, SMEs can minimize costs associated with stock outs, overstocks, transportation delays, and other supply chain inefficiencies. This can lead to cost savings and improved financial performance.
2. **Customer Satisfaction:** SCM plays a crucial role in meeting customer demands and expectations. SMEs that effectively manage their supply chains can ensure timely delivery of products, improve order accuracy, and provide better visibility into order status, which can result in higher customer satisfaction levels. Satisfied customers are more likely to become repeat customers and recommend the SME to others, leading to increased sales and business growth.
3. **Agility and Flexibility:** SCM can enable SMEs to respond quickly and effectively to changes in market demand, customer preferences, and supply disruptions. Agile and flexible supply chains allow SMEs to adjust their production and distribution processes in real-time, optimize inventory levels, and identify alternative sources of supply when needed. This can help SMEs mitigate risks, seize new market opportunities, and stay competitive in a rapidly changing business environment.
4. **Supplier Relationships:** SCM involves managing relationships with suppliers, which can have a significant impact on SME performance. Building and maintaining strong supplier relationships can result in better pricing, improved payment terms, access to new technologies, and better collaboration in new product development. Close collaboration with suppliers can also lead to more reliable and consistent supply, reducing the risk of disruptions in the supply chain.

5. Innovation and New Product Development: SCM can play a vital role in supporting innovation and new product development for SMEs. Collaborative SCM practices can facilitate communication and coordination among different stakeholders involved in the innovation process, such as suppliers, customers, and internal teams. This can help SMEs to introduce new products faster to the market, improve product quality, and gain a competitive edge.
6. Sustainability and Corporate Social Responsibility (CSR): SCM can also impact SMEs' sustainability and CSR efforts. By managing their supply chains responsibly, SMEs can ensure that their suppliers comply with social and environmental standards, reduce their carbon footprint, and promote ethical practices throughout their supply chains. This can help SMEs enhance their reputation, attract environmentally-conscious customers, and meet regulatory requirements. The supply chain management can significantly impact the performance of SMEs by improving cost efficiency, customer satisfaction, agility, supplier relationships, innovation, and sustainability. Implementing best practices in SCM can help SMEs overcome supply chain challenges, achieve operational excellence, and gain a competitive advantage in the market.

### **Review of related Literature**

Academics and industry professionals alike are beginning to recognise the rising importance of supply chain management, as discussed by Parul Goyal (2009) in her survey of the literature on the topic. Faster movement of products, funds, value, data, and information, and so on, is possible when the value chains of all involved parties are coordinated and interconnected. This improves client happiness and ROI by providing superior logistical services at lower rates. Collaboration with channel partners and suppliers allows for effective expansion of an integrated supply chain and logistical operations coordination to cover sourcing, production, and delivery methods (Mahamani & Rao, (2010). By optimizing processes and decreasing reaction times, a corporation may be more responsive to changes in the market via intra-firm coordination of logistics, production, and procurement. The most important factors in a company's ability to compete is its supply chain. Supply chain management expertise and practice are increasingly fundamental to maximizing output, satisfying customers, and enhancing businesses' bottom lines. Management of the supply chain researches ways to boost the value of a company by optimizing the distribution of its resources (Inda sukati et al., 2012). Manufacturers have come to realize that rivalry exists not among themselves but rather between the many supplier networks. Manufacturers are placing a premium on continuous supply chain optimization in order to achieve optimal results. Businesses that thrive are those that have integrated their internal processes with those of their external suppliers and customers. Arun Kumari and Vijay Kumar (2013). Even though there is an external and an inward supply chain, researchers have mostly ignored the supply chain in favour of the manufacturing side of things. However, recent years have seen a marked change in focus towards supply chain effectiveness, efficiency, and analysis.

### **Objectives of the Study**

The aims of the research are as follows.

1. To describe the recent developments in SCM and how it has contributed to the expansion of the economy.

2. To examine the impact of SCM components and SCP on organizational performance of manufacturing enterprises

3. To understand the Supply Chain Management Practices and Challenges in the recent era.

### Research Methodology

A well-structured questionnaire was sent to the executives of these industrial companies, and the proposed research hypotheses were tested through questionnaire (google form). For the study, the manufacturing and service sectors are taken into account. Through the questionnaire, it is determined from the respondents how supply chain management is used and how it affects firm performance (performance based on sales). The sample size was determined Reklitis (2021) sampling strategies. A sample size of 250 people was used in the investigation by using convenient random technique. Several different Coimbatore logistic companies answered to the survey.

### Supply Chain Management (SCM) practices

#### Age

In order to develop a reliable model between supply chain choices and organisational success, a company's SC organisation must have an understanding of the connections between its own actions and decisions and the many facets of supply chain performance. After that, it has to think about how its many activities and components will affect supply chain performance. Lambert, et al. (1998). This will make it less difficult to get support for the supply chain organization's actions from the company's upper management. Managing the supply chain is essential for businesses looking to increase customer value and differentiate themselves in the market. Because of this, supply chain management firms must always strive to improve the quality and efficiency of their supply networks. Supply chain management requires tasks such as product development, sourcing, manufacturing, logistics, and the use of information technologies to coordinate these processes.. Physical and informational flows connect the supply chain throughout the company. Physical flow in the supply chain refers to the movement, storage, and transportation of products and commodities. The age of the employees is one of the factors to show their risk taking ability. The following table shows the relationship.

Table 5.86

Age and Supply chain management practices

Reasons	Age group	N	Mean	Std. Deviation	F	Sig.
Subcontracting	Young	50	2.13	1.208	0.069	0.929
	Middle	120	2.57	1.077		
	Old	80	2.61	1.175		
	Total	250	2.53	1.138		
E-procurement	Young	50	2.52	1.024	0.259	0.772
	Middle	120	2.57	1.071		
	Old	80	2.54	1.144		
	Total	250	2.53	1.084		
Outsourcing	Young	50	2.42	.981	2.410	0.091
	Middle	120	2.31	1.072		



	Old	80	2.67	1.100		
	Total	250	2.45	1.069		
Holding safety stock	Young	50	2.44	1.156	0.523	0.559
	Middle	120	2.47	1.156		
	Old	80	2.62	1.127		
	Total	250	2.47	1.147		
Close partnership with suppliers	Young	50	2.52	1.127	0.087	0.915
	Middle	120	2.37	1.139		
	Old	80	2.38	1.116		
	Total	250	2.58	1.113		
Benchmarking	Young	50	2.45	1.105	1.642	0.192
	Middle	120	2.68	1.129		
	Old	80	2.49	1.149		
	Total	250	2.51	1.115		
Strategic planning	Young	50	2.64	1.129	1.652	0.192
	Middle	120	2.52	1.148		
	Old	80	2.18	1.036		
	Total	250	2.48	1.116		

The young respondents prefer the Strategic planning (2.64) and Close partnership with suppliers (2.52). The middle age group respondents opined that they prefer Benchmarking (2.68), E-procurement (2.67). The old aged respondents prefer holding safety stock (2.60) and Subcontracting (2.61). The result of ONE WAY ANOVA shows that the F values are not significant. The P values are more than 0.05. There is no significant modification in the opinion of the respondents about Supply chain management practices according to their age level.

## 2. Level of experience

Businesses nowadays are making great efforts to apply the most cutting-edge scientific methodologies to ensure that the appropriate product is delivered to the right client at the right time. Supply chain performance, design, and analysis have, nevertheless, lately attracted more attention. Today's competitive environment has made it difficult to manage the supply chain, especially due to the need to keep track of thousands of external data points and get organisations ready to act instantly and automatically along the whole supply chain. Inventory levels are decreased and total expenses are decreased through efficient supply chain management. The relationship between the two variables is examined using One Way Anova.

Table 2  
Experience and the impact of the respondents

Level of experience	N	Mean	Std. Deviation	F	Sig.
Less	55	79.5441	9.09055	4.117	0.016
Moderate	105	94.3372	10.11824		
More	90	91.7293	9.64174		

Total	250	92.4651	9.62128		
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The Table 2 reveals that moderately experienced group respondents have high mean of problem (94.3372) than less experienced and more experienced respondents. The result of the ANOVA shows that F value (4.117) is significant at 5% level (p=0.16). It is understood from the result that the moderately experienced respondents have more problem.

#### Discussion

The results of the tests are shown below in terms of the correlations discovered between the various factors. This demonstrates that companies adopting. However, improved organisational skills mitigated some of the effect of the underlying reason. Byrd, TA & Davidson, NW (2003). Businesses that used SCM had superior organisational capacities, but their financial performance was still impacted by things like interest rates, oil prices, and the economy. The findings, cooperative relationships and ties with supply chain firms have a substantial effect on company success, as suggested by Sukati et al. Additionally, Lee study diverges from this one since it employs industrial studies to build corporate promotion strategies and improve SCM competence in domestic firms. Lambert, et al. (1998). Using a comparative assessment of key domestic logistics businesses, this study identifies the direction domestic manufacturing logistics firms should shift to better assist them in a competitive setting.

#### Conclusion

Success in operations and the bottom line may be further increased by investing in research and development, commercialization of technologies, manufacturing, and marketing. Combining SCM strategies with organisational skills will consequently improve the operational and financial performance of these industrial businesses. Small and medium-sized enterprises (SMEs) may improve their competitiveness in an increasingly competitive supply chain environment by focusing on what they do best: their core strengths. Short-term investments in strengthening existing supply networks and long-term research and development of new supply chains may provide fruitful results for businesses. Companies, in order to succeed in the face of intense global competition, need to make the most of their limited resources. Mahamani & Rao (2010).The primary objective of this thesis was to identify the most important factor that needed more consideration for supply chain and organisational performance to improve. The results of this research may be used to guide decisions on supply chain performance, since they identify the most important elements affecting the efficiency of supply chain businesses run by companies situated in Tamil Nadu. In order to succeed in today's global market or networked economy, firms think they must rely on extensive and well-oiled supply chains. Lambert, et al. (1998).To succeed in today's supply chain management environment, companies and organisations must create a supply chain system that can adjust to the ever-shifting global market. A company's ability to manage and grow its supply chain management system is important to success in today's highly competitive industry. Competitive advantage is the ability of an organisation to create a sustainable edge over its competitors.

#### Implications:

Determining the interplay between supply chain strategy, corporate organisational competency, and operational efficiency is the study's overall objective. Beyond the current internal customers and supply partners, the need for stronger integration with external customers and supply partners is emphasized. For the smooth operation of any firm, this is also a must. Businesses that advocate for organisational competency in supply chains should first integrate their internal operations in order to develop supplier and customer integration with little initial resources.

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