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Challenges in Supply Chain Management – A Review

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ABSTRACT-
In both the service and manufacturing industries, SC management has taken a prominent operations strategy position, and for many years, industries have actually implemented SCM strategies in their businesses. India is becoming into a global industrial hub. Increasing demand in both domestic and foreign markets is providing Indian industries with new prospects. Globalization has increased competitiveness, making it inevitable for Indian firms to supply cost-effective, high-quality production with strict delivery dates. This article outlines SCM and some of the fundamental elements and issues that it faces. In summary, if SCM is viewed as a strategic aspect of a firm, then retaining control and control throughout the SC is critical to success. Finding the correct partner to handle the non-strategic SC, on the other hand, would be a critical aspect. A complete grasp of Supply Chain's components, procedures, workflow, processes, and the role of SCM in maximising corporate value is required to establish the most significant critical aspects within SCM. The SC operations reference model may provide reliable information on assessing performance and recognising urgencies inside SCM. Investigating its aspects, such as Plan, Source, Make, Deliver, and Return, can help us grasp the major critical variables. From the first to the third layer of SCM, these aspects cover all of the main tough areas.

Key words- Supply chain management, Logistics, Key factors of SCM, Challenges in SCM.

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I.INTRODUCTION-

Fierce competition in today's global markets, the introduction of products with shorter life cycles, and the heightened expectations of customers have forced business enterprises to invest in, and focus attention on, their supply chains. This, along with ongoing advancements in communications and transportation technology (e.g., mobile communication, the Internet, and overnight delivery), has fueled the supply chain's growth and the approaches used to properly manage it. Raw materials are obtained and things are created at one or more factories, then delivered to warehouses for intermediate storage before being supplied to merchants or consumers in a typical supply chain. As a result, efficient supply chain plans must take into consideration interactions at all levels in the supply chain in order to cut costs and enhance service levels. The supply chain, which is also referred to as the logistics network, consists of suppliers, manufacturing centers, warehouses, distribution centers, and retail outlets, as well as raw materials, work-in-process inventory, and finished products that flow between the facilities.

Supply chain management is a set of methods for integrating suppliers, manufacturers, warehouses, and stores in such a way that merchandise is produced and distributed in the right quantities, to the right locations, and at the right time in order to reduce systemwide costs while maintaining service levels.

Two or more parties linked by a flow of resources – typically material, information, and money – that ultimately fulfill a customer request is termed as supply chain.

The management of materials, information, and financial flows in a network of suppliers, manufacturers, distributors, and customers is what Supply Chain Management is all about. The planning and administration of all activities involved in sourcing and procurement, conversion, and all logistics management operations are all included in supply chain management. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. Supply chain management, in essence, blends supply and demand leadership inside and between businesses. Supply Chain Management is mainly concerned with the efficient integration of suppliers, factories, warehouses, and stores in order to produce and distribute merchandise in the right quantities, to the right locations, and at the right time, while minimising total system cost while meeting service needs.

II. LITERATURE REVIEW-

Analytically, a typical supply chain is simply a network of materials, information and services processing links with the characteristics of supply, transformation and demand. It is the collection and interaction of these elements that impact system-level qualities, properties, characteristics, functions, behavior, and performance (Cloutier et al., 2010). (Omera Khan and Bernard Burnes, 2007) in their study "Risk and supply chain management: creating a research agenda" develop a research agenda for risk and supply chain management. The paper shows that there are a number of key debates in the general literature on risk, especially in terms of qualitative versus quantitative approaches, which need to be recognized by those seeking to apply risk theory and risk management approaches to

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supply chains. The phrase supply chain management has been used to describe both internal and external logistical tasks, as well as the planning and control of goods and information movements within an organisation (Christopher 1992, Cooper et al.,1997 and Fisher, 1997). Researchers have also used it to describe strategic, inter-organizational issues (Cox, 1997, Harland et al., 1999), to discuss an alternative organisational form to vertical integration (Thorelli, 1986, Hakansson and Snehota, 1995), to identify and describe a company's relationship with its suppliers (Helper, 1991, Hines, 1994, Narus and Anderson, 1995), and to address the purchasing and supply perspective (Helper, 1991, Hines, 1994, Narus and (Morgan and Monczka, 1996 and Farmer, 1997).

III.CRITICAL FACTORS WHICH AFFECT SUPPLY CHAIN MANAGEMENT

It's hard to discover two Supply Chains that are similar. When two supply chains from two separate organisations that create and transport the same item are analysed, the same elements with distinct influences on each Supply Chain will be discovered. The difference between two Supply Chains arises from environmental uncertainty, information technology's communication and planning tools, supplier and customer relationships, value added within the manufacturing process, Supply Chain Management performance, management style, or customer satisfaction. Company environment, government or authority support, and uncertainty components from abroad, such as political and social issues, all contribute to environmental uncertainty.

In order to understand how a supply chain works, it is important to identify the factors affecting supply chain management. The identification of these factors has been based on previous work by Li (2002), and Quesada and Meneses (2010). The following sections show generic supply chain management factors and sub-factors that might affect supply chain management activities.

3.1Environmental uncertainty

Environmental uncertainty refers to the environmental issues in the product chain (Dwivedi and Butcher, 2009). Ettlie and Reza (1992) described this as the unexpected changes of customer, supplier, competitor, and technology. Environmental unpredictability, according to Paulraj and Chen (2007a), is a significant element in the implementation of strategic supply management programmes. The increased use of outsourcing in the industry has raised awareness of the need of strategic supply management, which leads to improved relationships between businesses. Under this factor, three sub-factors were identified: environment, government support, and uncertainty aspects from overseas.

3.2Information technology

Telecommunications and computer technology allow all the actors in the supply chain to communicate among each other. Distributors, makers, wholesalers, merchants, and consumers may all benefit from the usage of information technology by reducing lead times, paperwork, and other inefficient processes. Managers will get significant benefits from its utilisation, including a coordinated flow of information, access to information and data exchange, enhanced

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customer and supplier connections, and inventory management, not just at the national scale but also worldwide (Handfield and Nichols, 1999). Supply contracts over the internet, strategy dissemination, outsourcing, and procurement will all be benefits (Simchi-Levi et al., 2003). All businesses are seeking for ways to save costs and shorten lead times, not just to improve customer service but also to strengthen inter-organizational connections (Humphreys et al. 2001). According to a research conducted by Tim (2007), industrial firms may develop value in their supply chain partnerships by using communication tools such as web sites. Another element to supply chain management effectiveness, according to Turner (1993), is the use of planning tools. He also states that corporations cannot manage expenses, provide excellent customer service, or lead in logistical performance without the usage of information technology. Without cutting-edge information technology, organisations cannot effectively control costs, provide great customer service, or just become leaders in supply chain management, according to Turner (1993). Electronic data exchange (EDI), enterprise resource planning (ERP), the internet, and extranets are among the 14 information technology instruments recognised by Li (2001). In terms of their principal purpose, Li divided these tools into three categories: communication tools, resource planning tools, and supply chain management tools. This study considers two subfactors based on this classification: communication and planning tools.

3.3 Supply chain relationships

The importance of supply chain partnerships in attaining the firm's objectives cannot be overstated. Companies profit more from better coordination and integration of activities with suppliers, as well as a better grasp of client demands. Supply chain management, according to Fraza (2000), is inextricably linked to relationship management, which involves suppliers and customers. Strategic supplier partnerships and customer interactions are key components of supply chain management techniques (Li et al., 2005), leading to information exchange, one of the five pillars of a strong supply chain relationship (Lalonde, 1998). In the model interaction with suppliers and consumers, there are two sub-factors to consider.

3.4 Value-added process (manufacturing)

Value-added goods might be current things or commodity processes; all you have to do is make appropriate improvements and apply them. According to Bishop, value-added is defined as "adding those manufacturing or service steps to a commodity product that the customer perceives as increasing its worth" (1990). Customers always want to pay what they think is a reasonable price, and if they get something additional with the items, they have gotten value-added. Two factors are critical when it comes to value-added: flexibility and quality. And, Production procedures, according to Benetto, Becker, and Welfring (2009), contribute to increased value-added. Dramm (undated) asserts, for example, that the forest products business is primarily concerned with obtaining the most value at the lowest cost throughout the production process, as well as enhancing efficiency, quality, and productivity. As a result, it's critical to incorporate the manufacturing system in the value-added process.

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3.5 Supply Chain Management performance

SCM performance is defined as the ability to offer exceptional customer service via operational excellence (Simchi-Levi et al., 2003). Some characteristics of effective performance measuring systems, according to Beamon (1999), include inclusiveness (measurement of all relevant elements), universality (allows for comparison under diverse operating situations), measurability (data necessary is quantifiable), and consistency (measures consistent with organisation goals). In addition, critical components such as resource measurement (usually cost), output measurement (typically customer responsiveness), and adaptability are included in the strategic goals. According to Stevens (1990), establishing an integrated supply chain necessitates material flow management from three perspectives: strategic, tactical, and operational. The usage of systems, facilities, and people must be viewed as a whole and coordinated from various viewpoints. He also says that inventory levels, service levels, throughput efficiency, supplier performance, and cost may all be used to assess supply chain success. According to Lear-Olimpi (1999), logistics play a critical part in achieving supply chain excellence, which leads to increased company performance (Lear-Olimpi, 1999). The examination of the supplier market is another important component of efficient supply chain management (Purchasing, 2007). According to Canbolat, Gupta, Matera, and Chelst (2008), one essential aspect is outsourcing, which is vital in supply chain management because of the opportunities and hazards it presents. The logistics, supplier marketplaces, supplier performance, and materials sourcing sub-factors are then included in this factor.

3.6 Business management

Business management comprises directing, developing, coordinating, supervising, and controlling all of the related actors and activities of a firm in order to reach goals and objectives. "The practise of organising networking across organisations," according to Ford and Mouzas (2010). Due to quick changes in customer demand, globalisation of markets, and growing technology, businesses must focus their efforts on improving competitiveness and aiming to enhance consumer happiness by giving greater value to their goods (Hung, 2010). As a result, enhancing the performance of business processes is crucial for company management (Linzalone, 2008). Also, Manufacturing performance and, as a result, company performance are improved through process planning (Thomas et al., 2008). Managers consider marketing strategy as a tool for increasing their financial returns (Peterson, 1989). Furthermore, innovation should be viewed as an integral aspect of company management, enabling for the rapid adoption of new processes, products, and services in response to client needs (Leavy, 2010).

3.7 Customer satisfaction

The perspective of the buyer and the view of the product maker are not necessarily the same. Low cost, on-time delivery, delivery date assurance, or having a customised product may be more important to customers (Simchi-Levi et al., 2003). Manufacturers and merchants, according to Kurata and Num (2010), are continually seeking for realistic

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after-sales strategies that would allow them to improve customer satisfaction levels. In addition, Ou, Liu, Hung, and Yen (2010) found that managing customer-firm-supplier relationships increases operational effectiveness and customer satisfaction. A sub-factor of customer service is identified as a result of this.

IV.SUPPLY CHAIN CHALLENGES

The complexity of today's supply networks is increasing as a result of various causes. Customers want new items delivered on time and at a fair cost. Companies have difficulties as a result of this, as establishing both responsive and cost-effective supply chains is extremely challenging. The following are the current supply chain problems.

4.1Globalization

One of the most significant difficulties that businesses face is lowering supply chain costs. Companies have chosen to shift production to low-cost nations throughout the world in order to decrease direct and indirect expenses and minimise taxes in order to meet customers' pricing expectations. However, having worldwide suppliers adds to the complexity that comes with long delivery lead times. Customers desire not only cheaper pricing, but also for their items to arrive on schedule.

4.2. Customer Preferences

Global supply networks, as previously noted, are complicated. When you add in the fact that product features are continually evolving, the difficulty becomes considerably larger. Customers put pressure on corporations to come up with the next great thing when a product is introduced. Innovation is critical because it helps businesses to remain competitive in the marketplace, but it is also difficult. To improve a product, businesses must rethink their supply chain and satisfy market demand in a transparent manner for customers.

4.3.Market Growth

The quest of new clients is another issue that poses a problem. From R&D through commercial launch, the cost of producing a product is enormous. As a result, businesses are attempting to expand their distribution into new areas in order to boost revenue and market share. Companies all across the world are projected to expand both domestically and internationally. Trading restrictions, taxes, and government policies make it difficult to introduce new markets.

4.4.Customers’ expectations

Demands are higher than ever before. Companies have reacted with worldwide networks, product innovation, and market expansions, as described below. This implies that, in order to remain competitive, organisations increasingly rely on supply chain managers to optimise their value chains. As a result, it's no wonder that these experts are in such great demand. Consumers can rest confident that supply chain management specialists, including our own Grainger Centre alumni, are working behind the scenes to solve these issues on a daily basis and are ready to satisfy customers.

In a nutshell, the primary issues in SCM include extended lead times in the global supply chain, rising and altering customer demands, and rising labour prices in emerging nations. Increases in labour expenses in

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emerging nations, logistical costs, the importance of sustainability, and unprecedented volatility, among other things

V. CONCLUSIONS

All businesses strive to add value to their consumers and achieve competitive advantages. In order to attain these, businesses are increasingly focusing on supply chain management.

All parties involved must be committed to effectively managing the supply chain.

The most difficult important aspect in supply chain management is precise communication, because it involves regulating the flow of information, goods, and services through a network of supply chain partners, production facilities, and customers. Vertical and horizontal communication across supply chain partners, processes, activities, and functions ensures efficient information.

The company's management makes decisions at all levels based on it. Supply chain partners communicate up-to-date information on sales, demand forecasts, inventory levels, manufacturing capacity, minim imum limits, marketing efforts, and other topics via information flows. The bullwhip effect occurs when inaccurate or misleading information causes a stable demand to become lumpy orders as it moves through the supply chain. When essential components are identified and exploited effectively, supply chain management yields better results. The significance of supply chain key variables is determined by the company's goals for its own supply chain.

REFERENCES

[1] Bowersox DJ, Closs DJ, Cooper MB. (2007) Supply Chain Logistics Management New York: McGraw-Hill Irwin, pages 4 -8

[2] Lee, H. (2006) The Triple – A supply chain, New York: HavardBussines School Press, pages 87-116

[3] Dawei L., Dr.Dawei Lu &bookboon.com (2011) Fundamental of Supply Chain Management ISBN978-87 7681-798-5, page 111

Retrived from bookboon.com

[4] Ted J., Ted James & bookboon.com (2011) Operation Strategy ISBN 978-87-7681-828-9, page 20 Retrived from bookboon.com

[5] Heyl J.,(Prentice Hall) (2011) Supply Chain Management, Pearson Education Retrieved from http://en.wikipedia.org/wiki/Supply_chain_management#Origin_of_the_term_and_definitions

[6] Anderson, J.R., (1983). The Architecture of Cognition. Harvard University Press, Cambridge, MA.

[7] Andersson, M., Lindgren, R., Henfridsson, O., (2008). Architectural knowledge in inter enterpriseal IT innovation, Journal of Strategic Information Systems 17, 19–38.

[8] Mac Carthy and Atthirawong (2003), Factors Affecting Location Decisions in International operations – a Delphi study, International Journal of Operations & Production Management Vol. 23 No. 7, pp. 794-818

[9] M.T. Melo, S. Nickel and F. Saldanha-da-Gama (2009), Facility location and supply chain management – A review, European Journal of Operational Research, Vol. 196, pp. 401–412

[10] B.S. Sahay and Ramneesh Mohan (2003). Supply chain management practices in Indian industry. International Journal of Physical

Published by: The Mattingley Publishing Co., Inc.

Distribution & Logistics Management, 33: 7, 582-606.
[11] Christopher S. Tang (2006). Robust strategies for mitigating supply chain disruptions. International Journal of Logistics: Research and Applications, 9:1, 33–45.
[12] J.F. Shapiro (2004), Challenges of Strategic supply Chain Planning and Modeling,Computers& Chemical Engineering 28, pp. 855–861.

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