What is supply chain management?

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Despite the worldwide investment of over a decade and billions of dollars in Industry 4.0 technologies, only a small number of researchers have entered digital supply chain management and modeling research. Thus, what hindered supply chain development? Recent internal discussions have focused on how to answer these concerns and quicken the development of supply chain management. We'll collaborate with industry to learn from each other's mistakes and see how other regions are faring in supply chain management.

Supply chain management is a digital solution that aims to deliver products from suppliers to manufacturers and consumers quickly and efficiently, integrate information flows like logistics distribution, inventory management, and order processing, and transmit them through the network to reduce inventory, maintain product expiration dates, reduce logistics costs, and improve customer quality. Supply chain modeling is all about innovative strategies[1]. Supply chain management is important in various industries[2]. The use of simulation and modeling (SM) has been proposed as an alternate method for supply chain managers to try out potential solutions and provide data for decision-making about a wide range of SCM issues[2]. In the context of sustainable entrepreneurship, sustainable supply chain management and green radical product innovation (GRPI) play a mediating role in the link between sustainable entrepreneurial orientation (SEO) and sustainability performance[1]. In Pakistan, top management support significantly influences green supply chain management, environment, and community-based sustainable development goals (SDGs). Green supply chain management plays a partial mediating role between top management support and environment practices as well as between top management support and community practices[3]. In previous researches, Structural equation modeling (SEM) and analytical hierarchy process (AHP) methods was used together to calculate the performance index of each dimension and then to obtain a final products supply chain performance score. The dimensions of this study include supply chain management, resource management, product safety, packaging, and waste management[4].

Innovative technologies such as AI (Chat GPT), IOT, BDA, Meraverse, and 3D manufacturing have disrupted supply chains

in many companies. However, these technologies can also improve procedures, plans, inventory, costs, customer satisfaction, resilience, and sustainability. For example, the metaverse's ability to "bend the time and space continuum" can enable corporations to view the entire supply chain from suppliers to end customers to balance supply and demand in real-time. Block chain and digital twins can track supply chains and ensure sustainable manufacturing[5,6]. Industry 4.0 technologies, which involve real-time data exchange through smart technologies, can also mitigate supply chain disruptions caused by unforeseen incidents or risks. Industry 4.0 technologies significantly mitigate supply-demand mismatch and process risks and any resulting supply chain disruptions[5]. As we continue to face the effects of COVID-19, executives are considering alternative supply chain models and contract terms, identifying supplier distress, and implementing new technologies to ensure supply chain resilience[6].

To develop robust and resilient supply networks, firms must rethink supply chain management and modeling. Marrucci et al.[7] advised to capitalize on developing topics; organizations must employ flexible data collection techniques. They also need to gather data on other players and better monitor product origins and quality issues at multiple levels. For vendors who didn't offer statistical quality control, digital platforms made it possible. In order to improve ideas, innovation, and members' reputations, relational resources, and intellectual resources, digital platforms can help companies develop a digital relational network. Therefore, digital platforms and flexible data collecting techniques can help organizations respond to disturbances and improve supply chain management resilience[7]. Enterprises must modify their supply chain risk management philosophies, methods, and models to survive and thrive. The expanding worldwide exchange of goods and the unlimited movement of data and information beyond digital interactions between stakeholders have increased the need of establishing complex risk assessment models in conventional supply chains. The necessity for transparency over a substantial part of global supply chains' value-adding activities raises the possibility of creating competitive advantages through creative supply chain management tactics. The two essential tools are very important "Performance analytics and benchmarking" that provide data insights and measure efficiency, cost-effectiveness, and risk management relative to competitors.

In a sequential supply and demand process, supply chain modeling the stakeholders' dispute point is crucial because the supply chain mechanism and modeling is particularly sensitive to the stakeholder's value distributional mechanism and transparency which highlight the importance of supply chain modeling.

Conflict of interest

The author declares no conflict of interest.

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