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Study And Identification of Barriers in Supply Chain: A Literature Survey

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Abstract

Supply Chain Management (SCM) plays a very crucial role in the industry. It affected the economic, social, and environmental aspects of the industry. The supply chain not only does material flow from supplier to customer but information, money, and knowledge also pass down. This article reviews the literature on the implementation and barriers to the identification of SCM. The review was conducted by analyzing the publication of different articles from 2016 to 2021. Many research articles around forty-five publications in SCM are used in the study and systematic analysis is performed. Based on the literature survey, brainstorming, and experts talk gaps are identified as well as the main implementation and barriers identification in research are noted. This research article included a conceptual framework for SCM. It will help industry persons to develop strategies for the conceptual supply chain.

Keywords: Supply chain, Literature survey, Barriers, Material flow

1. Introduction

Supply chain management plays a crucial role in the success of any industry. However, there are several barriers that can impede the efficient functioning of the supply chain. The study and identification of these barriers are essential to overcome them and improve the overall performance of the industry. One of the significant barriers in the supply chain is the lack of coordination between various stakeholders. For instance, suppliers, manufacturers, distributors, and retailers often have conflicting priorities and goals, leading to delays and disruptions in the supply chain. This can result in increased costs, reduced productivity, and unsatisfied customers. Another significant barrier is the lack of visibility and transparency in the supply chain. This can make it challenging to identify and resolve issues in real-time, leading to delays, stock outs, and excess

inventory. Additionally, poor communication and information sharing can result in inaccurate demand forecasts and incorrect inventory levels. Infrastructure and technology-related issues are also common barriers in the supply chain. For example, outdated or inadequate transportation and storage facilities can cause delays and damage to goods. Similarly, a lack of proper technology and software can result in inefficiencies and errors in the supply chain. Lastly, regulatory and legal barriers can also impact the supply chain's functioning. Compliance with regulations related to health, safety, and the environment can be time-consuming and expensive. Additionally, customs and trade regulations can lead to delays and extra costs for cross-border trade. To overcome these barriers, industries must adopt a collaborative approach to supply chain management. This can involve the use of technology to improve visibility and communication, investment in infrastructure and logistics, and compliance with regulations. By identifying and addressing these barriers, industries can achieve greater efficiency and profitability in their supply chain operations.

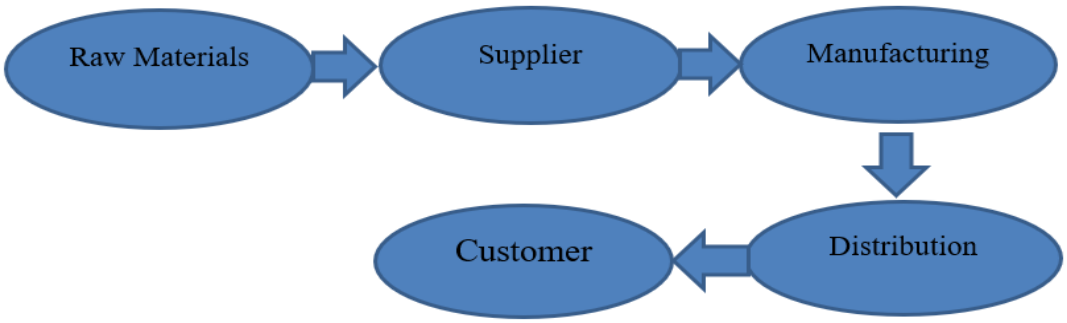

Fig. 1. Flow of supply chain

2. Literature Review

According to Himanshu Gupta et al., (2020) This study identifies a list of barriers that hinders adoption, implementation, and upscaling of sustainable supply chain innovation in the manufacturing industry. It also suggests methods for getting around obstacles that are meant to help management make decisions by dealing with them methodically [1]. A multi-criteria decision analysis method, the Best-Worst Method (BWM), is adopted to aid in the evaluation and prioritization of the obstacles and methods for overcoming them in the industrial sector of India, a rising country.

Tumpa T j et al. (2019) had discussed about green supply chain management, basically it is becoming more popular as a means of reducing the damaging environmental effects of enterprises across the globe [2]. Green supply chain management is still in its infancy and has not been widely adopted in the textile industry, however, given the environment of an emerging country like Bangladesh. As a result, challenges preventing its adoption in an emerging economy context necessitate a thorough research

Jim Hart et al. (2019) had discussed about the Barriers and drivers in a circular economy. The circular economy has quickly risen from specialized discussions to general awareness [3]. Rapidly following reports, white papers, scholarly publications, and guidance, the world's first standard on circular economy for organizations has been realized. Most of this body of knowledge has a general focus, but because industries and products vary, a more specialized understanding and strategy are required if circularity is to become a reality.

According to Md. Abdul Moktadir et al (2018), Big data (BD) has recently drawn the attention of researchers and professionals due to its potential value in decision-making procedures. Manufacturing businesses are increasingly using big data analytics (BDA) as a tool to get insights and make choices based on BD [4]. The use of BDA in supply chains for manufacturing, however, faces numerous obstacles. The nature of each barrier must therefore be determined and examined by manufacturing companies.

Alok Raj et al (2019) had discussed about the Barriers to the adoption of industry 4.0 technologies in the manufacturing sector. In both established and developing economies, the challenges to the adoption of Industry 4.0 technologies in the manufacturing sector are examined in this article [5]. 15 hurdles are found after a thorough research of the literature and consultations with experts in the field, after which a Grey Decision-Making Trial and Evaluation Laboratory (DEMATEL) approach is used to examine the barriers.

Juanita Álvarez Jaramillo et al (2018), tried to enlighten the challenges experienced by small and medium-sized businesses (SMEs) when putting sustainable development plans into practice [6]. To achieve this, a search equation was created, and the top 50 papers from Scopus' search results between 2013 and 2017 were evaluated. Article Name, Country, Article Year, Journal, Continent, Sc-imago Journal Rank, Sc imago Quartiles, Associated Universities, abstract, and keywords were the parameters that were chosen for the article analysis.

Sachin Kumar Mangla et al (2018) had discussed about the concept of a circular supply chain (CSC) emphasizes the increased usage of reuse, recycling, and remanufacturing and encourages the transition from a linear to a circular model of product flow [7]. Manufacturing companies' supply chains have expanded to a

global scale throughout time. Goods made in developing countries are exported to industrialized countries for mass consumption.

Ipek Kazancoglu et al (2020) had enlighten the fact about the use of renewable resources and technology is part of the circular economy concept. Via closed-loop systems, reverse logistics, eco-design, product life cycle management, and clean production, the shift to the circular economy adds value [8]. The study's goal was to present a comprehensive conceptual framework for overcoming obstacles to circular supply chains for sustainability in the textile sector.

Sunil Luthra et al (2021) had discussed the facts to solve global concerns including resource extraction, environmental degradation, and waste generation, economies are switching from a linear to a circular model [9]. Incorporating sustainable practices into the value chain and using resources in a way that benefits all parties is possible through cross-sector collaboration (C-SC). Companies can reach their goal of zero waste by utilizing circular supply chain management (CSCM).

Md Abdul Moktadir et al (2018) had discussed how Bangladesh's leather industry is under intense pressure to implement sustainable supply chain management (SSCM). Although some studies have looked at obstacles to SSCM practices in developed and developing countries in different domains, these aren't strictly applicable to the leather industry in Bangladesh. [10].

On the basis of various literature survey, we identified different barriers which affects our supply chain.

Table 1: Identification of Barriers in supply chain

Factors Identification

Factor	Description	Source
Technological Barriers (TC)	The technology needed by organizations to manage trash, recycle, and reuse resources efficiently and effectively are lacking.	Al Zaabi et al., 2013; Stewart et al., 2016; Movahedipour et al., 2017
Economic and Financial Barriers (EF)	Companies lack the funding to invest in technology and technical Knowledge needed to conduct innovation-related sustainability activities.	Al zaabi et al., 2013; Stewart et al., 2016; Bhanot et al., 2017; Neri et al., 2018
Regularity and Institution Barriers (RI)	For a sustainability programmed to be implemented successfully, an institutional structure is a requirement. The necessary institutional foundation for sustainability is lacking in developing countries.	Al Zaabi et al., 2013; Al Sanad, 2018; Durdyev et al., 2018; Greenland et al., 2018
Social and cultural Barriers (SC)	Because they employ recycled materials and occasionally are repurposed, consumers frequently mistakenly feel that sustainable items are of poorer quality.	Delmonico et al., 2018; Narayanan et al., 2018:
Organizational Barriers (OG)	Employee performance in terms of sustainability is not measured by organizations, and as a result, employees are not rewarded for innovations.	Al Zaabi et al., 2013: Stewart et al., 2016; Bhanot et al., 2017;
Market and Net- Working Barriers (MN)	Customers' needs for the features they want in products are not always evident.	Stewart et al., 2016; Bhanot et al., 2017; Durdyey et al., 2018:

Methodology:

The research methodology involved a review of existing literature on barriers in the supply chain. The literature review was conducted by searching academic databases such as JSTOR, Google Scholar, and ProQuest. Case studies of companies that have faced supply chain barriers were also analyzed to identify common barriers and solutions. In addition, interviews were conducted with supply chain experts to gain insights into the current state of the supply chain and the challenges faced by businesses.

Findings:

Based on the literature review and case studies, several common barriers were identified in the Supply chain. These barriers include:

1) Weak communication: Communication breakdowns between partners can lead to delays and inefficiencies in the supply chain.

2) Lack of trust: A lack of trust between partners can lead to conflicts of interest and reluctance to share information.

3) Lack of information sharing: Inaccurate or incomplete information can lead to delays and errors in the supply chain.

4) Deficient coordination: Lack of coordination between partners can lead to inefficiencies in the supply chain.

5) Poor infrastructure: Inadequate infrastructure such as roads, ports, and warehouses can lead to delays and increased costs.

6) Inefficient logistics: This logistics includes transportation and inventory management; it can be led to delays and increased costs.

7) Insufficient management: Poor management practices such as lack of planning and control can lead to inefficiencies in the supply chain.

To overcome these barriers, several solutions were proposed based on the literature review and case studies. These solutions include:

1) Improved communication: better communication channels and protocols can improve communication between partners in the supply chain.

2) Building trust: Establishing trust between partners through open communication and transparency can lead to better collaboration.

3) Better information sharing: Accurate and complete information sharing can lead to better decision-making and more efficient processes.

4) Improved co-ordination: better coordination between partners can lead to improved efficiency and reduced.

By implementing efficient managerial implications, companies can improve the efficiency and effectiveness of their supply chain operations, leading to improved customer satisfaction and business success.

Conclusion:

This paper aimed to identify and study the barriers that can affect the supply chain, and provide recommendations on how to overcome them. The study identified several common barriers, including logistical, technological, regulatory, and human barriers, that can have significant impacts on the efficiency of the supply chain. However, there are many strategies that companies can use to overcome these barriers, such as improving communication and collaboration between supply chain partners, investing in technology infrastructure, and improving inventory management. By implementing these strategies, companies can improve the efficiency and effectiveness of their supply chain operations, leading to improved customer satisfaction and business success.

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