

Sustainable Supply Chain Management

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Abstract

Purpose: This paper aims that doing a literature review on the topic of sustainable supply chain management by doing a critical analysis of the available research paper on the topic. This study will provide the importance of sustainable supply chain management in the current scenario of operation management in the different company. Further, the aim is to map the use of the theory in the relevant field and future avenues for its development. **Design/Methodology/Approach:** Research papers and articles from different journals were collected on the topic of sustainable supply chain management and its relevance. Main focus on given on the relative definition and key aspects of the term 'sustainable supply chain management' and more importantly sustainability role in the study of Supply chain management. At first 50 articles were collected and analyzed based on a different perspective on the topic. Out of these selected 50 papers, 5 papers were taken into consideration for the evaluation based on the analysis and application. These 5 papers provided the quantitative data to approach the topic at hand and create a framework representing the theory of sustainable supply chain management. Also, the relevance of the topic in different countries and sector dimension is also taken into consideration. Further, an in-depth analysis was done on the impact of the sustainable supply chain management on the performance and results of the given firms/organization. This analysis was based on the secondary data collected from the reports and papers analyzed. **Findings:** The crucial role of the theory of sustainable supply chain management plays in different dimension such as economic, social, environmental etc of the firms depending on the type of the industry and methodology used to implement it. At first, the finding includes the way to attain the sustainability in the traditional approach of the supply chain management. Later, the theory is evaluated as the key to improving the operation by the mean of being more effective and effective. Further, comprehensive application and strategically implementation of the theory is described in the different decision-making process in the operation management, specifically in supply chain operation. In addition to that, it also showed the impact of enhancing the performance and results through the proper implantation of the theory. **Research Limitation/Implications:** First, the underlying framework used to build up the theory are derived through different methodology in different research papers, where most of them based on the conceptual notion and are not emphatically tested. A limited number of real-world application examples to validate the theory. Second, analyzed firms/companies in different papers are limited. Also, these firms/companies taken into consideration operate in different industries, where the implication and effect of theory will be different depending on the relevance and application of the theory. Third, the contrast of the focus between economic dimension and sustainability in the social and environmental within the supply chain in different search paper. Fourth, most of the research papers available are on positive terms, so the theory under another term should also be examined. For example, determining the risk and cost associated with the theory which can have the adverse impact on the supply chain. **Originality/Value:** The focus of this paper was to provide a better understanding of the sustainable supply chain management theory and its application in a different stage of decision making and operation management to both the practitioner and academicians. It craves the path to shift from the tradition supply chain to the new approach by providing the literature review of the extensive research paper from the year 1991 to 2018.

Keywords: Economic and Social Dimension, Operation Management, Performance Measurement, Supply Chain Management, Sustainability

1. Methodology

The methodology used in the research paper varied as per different research papers. The most common ones were the sample survey and systematic literature review. In the questionnaire, both qualitative and quantitative questions were asked of the sample and their responses were recorded. The systematic literature review strategy takes into consideration the minimization of specialist inclination and the amplification of dependability and replicability. The examination’s exact legitimacy is additionally upgraded by showing abnormal amounts of inter-coder unwavering quality crosswise over groups of codes. The 6R (reduce, recover, redesign, reuse, recycle, remanufacturing) technique was used. The main methodology which was common in all was the three-pronged methodology. In this, the first step was to develop the framework for the initiatives of the supply chain sustainability. The second step was to access the adoption of each initiative, and the final step was an in-depth investigation of the data. In some research papers, Delphi technique also came into the picture. In this, the expert’s opinions are taken which are anonymous. Concepts like SSCM, SCOR were used to draw conclusions in the methods used. Various models such as hybrid model, concepts model were used to analyze the research paper. The various types of research were:

- Meta-Analysis
- Systematic literature review
- Critical analysis of literature

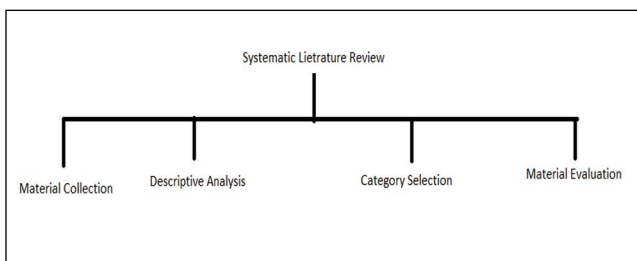


Figure1. Diagram representing phases of literature review.

In Meta-analysis, we use various research papers, analyze it and drive our own conclusions or suggestions based on them. The four most important steps in our research paper were first, material collection, then descriptive analysis, followed by category selection and then material evaluation. Some papers also used the Value chain analysis which is used to expose strategic and

Country	2006-2008	2010-2012	2013-2015	2016-2018
USA	3	1	4	1
Australia		2		
Italy		2		
Finland			2	
Denmark			1	
Norway			3	
UK	1	5	3	2
China		2	1	2
Germany		1	5	1
India			5	2
Malaysia			4	

Figure 2. Table representing the papers published based on countries.

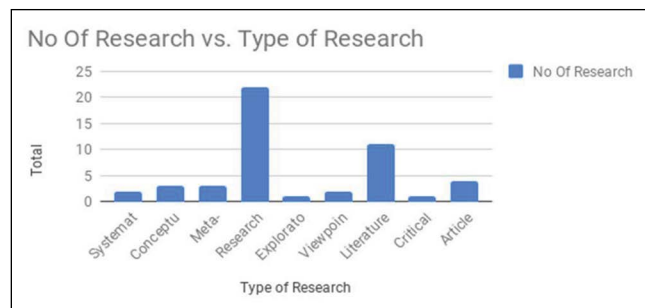


Figure 3. Diagram represent paper published based on methodology.

operational misalignments within chains, which further leads to opportunities for the improvement.

1.1 Distribution of Articles in Terms of the Time Periods and Respective Countries

Country-wise distribution of the research paper is very crucial in order to identify the seriousness of the research conducted. For this research, we found the following countries with their respective years. From here we see that most researches were done during the period of 2013-2015.

1.2 Distribution Among Sectors

The distribution of the articles used was of various sectors such as SCM in collaborative manufacturing, the performance measurement, measurement of social

issues in supply chain, creation of sustainable supply chain, capabilities of various supply chains, the various dimensions involved in a supply chain, risk management in supply chain and green SCM. Nakamba, C. C., Chan, P. W., & Sharmina, M. (2017). Craig R. Carter, & Dale S. Rogers, (2008).

1.3 Distribution in Terms of Issue Coverage

The main issue in line is the business coverage and the business performance involved, which are limited to their own resource. These were followed by the similar issues like customer satisfaction, and product delivery to the customers. One of the issues is that the models used have their own assumptions and are these models actually relevant, is a matter of concern. In many research papers, the important factors like economic and environmental dimensions have not been taken into account. In some papers, manipulation of the data has been done and the work presented is conceptual in nature and not operational.

2. Sustainable Supply Chain Management

Sustainability is one of the buzzwords seen in every industry across many vertical domains and companies. In this VUCA world, it is very critical to take any business decision on the basis of sustainability. The impact of the decision on the long-lasting career of not only of the employee but of the organization is paramount. In the same time, the evolution of Supply chain has been immense. The word Supply chain and its association have been evolved with respect to time. Nowadays Supply chain of any organization should be linked with the paramount factor of sustainability. With the increase in competitors and cutting-edge technology, it is important that the supply chain of any company should be as agile as possible and should be at times efficient to the long-term gains and short terms changes in the demand patterns.

Sustainability in supply chain has been in talks from the late 1970s after the 2nd world war and the boost in the economy because of globalization. The major impact was because of the rapid rise in the technology front. With the increase in sophistication in the technology, the Supply chain has got a higher impact on it and Supply chain of the companies have got robust and agile to the short

life cycle of the upcoming products in the market. This literature review shows how the part Sustainability got the importance in the Supply chain of the companies and what all kind of research has been done so forth in the supply chain on the sustainability front. WCED (World Commission on Environment and Development). 1987

Sustainable development is defined as “a development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). While various comprehensions of sustainability exist, one central concept serving to operationalize sustainability is the triple bottom line approach, where a base execution is to be achieved in the environmental, economic and social dimensions (Elkington J. Cannibal, 2002). This can be comprehended as being in line with the notion of request qualifiers an organization needs to fulfil before it can even compete for orders (Hill T., 2000).

The conceptualization and administration of social and natural issues have advanced from what we term “independent,” through the thought of social obligation, and finally to the idea of Sustainability portrayed this advancement next.

A great part of the production network explore that many would consider being a piece of Corporate Social Obligation (CSR) and maintainability has happened in a standalone mold, in which there has been practically no acknowledgment of the interrelationships among themes, for example, nature, assorted variety, human rights, charity and wellbeing and the way that these are truly segments of the bigger, more comprehensive ideas of CSR and supportability as they apply to inventory network administration (Carter and Jennings, 2002). Thus, inventory network directors frequently started and oversaw past ventures in a standalone design, without an unmistakable, all-encompassing, and more key understanding of how these bits of the riddle fit together to make their association’s general manageability position. Administrators additionally frequently neglected chances to gain from the victories and disappointments of one kind of activity – say in the natural field – and apply this information to future ventures in different parts of their association and in different zones of maintainability, for example, decent variety and wellbeing issues. Crafted by Carter and Jennings (2002) were among the prior papers to see these standalone exercises inside a more extensive conceptualization of CSR. Carter and Jennings (2002) join the social obligation writing from the administration

fields and use Carroll's (1979, 1991) order of financial, lawful, moral, and optional duty to put the standalone production network administration exercises inside the setting of optional exercises and in this way a social obligation. Murphy and Post (2002, p. 23) likewise position the standalone exercises inside the rubric of social obligation and note the need to "look for socially beneficial results alongside monetarily beneficial ones." Both of these papers set natural and social (e.g. decent variety, charity, human rights, and security) exercises inside the rubric of social duty.

3. Dimensions of Sustainable Development

The articles were separated into three classifications in connection to practical advancement. It should first be said that the monetary measurement was expected as being secured by all papers, as just administration related distributions and diaries shape some portion of the evaluation. Consequently, three classes were shaped, i.e., does the substance address (1) ecological or (2) social issues or (3) have the two measurements (natural and social) been considered? Papers falling into the last classification were classified as practical. See figure 3 Table 1 demonstrates the after effects of this separation, furthermore demonstrates the conveyance over the day and age considered. The vast majority of the articles (Seuring S., 2001 Seuring, S., & Muller, M. (2007, 2008). Walker, H. (2013)) manage ecological issues. This can be

clarified, as related issues have been on the motivation for a more extended timeframe. The high number of papers in 2001 is clarified by a diary uncommon issue of Greener Management International, which especially took a gander at green themes. In any case, it ought to be said that the first paper incorporated into the writing survey by Drumwright (1994) manage social issues. Only 20 papers focused on the social dimension and a further 31 papers were classified as practical, as they coordinate natural and social issues. For the reasonable ones, it is fascinating that this incorporation just shows up around 2002, from which year on a significant number of papers is distributed. Figures on social viewpoint are flightier in distribution numbers. There are five each in 2002 and 2003, which represent half of every related paper. Carter and co-creators [17– 23] record for seven of the papers on the social angles. Karna and Heiskanen (1998) are the first papers to coordinate every one of the three measurements. This uncovers an unmistakable deficit in figure 3 production network administration and obtaining writing on social issues and additionally on the amalgamation of each of the three measurements of supportable improvement. Future research on these subjects would be one of the unmistakable suggestions towards specialists in the field. The moderately high number of eight paper joining maintainability issues may point into this bearing.

5. Conclusion

This study has taken a broad look at sustainable supply chain management and the future of it. There is the broad concept of sustainability and it is an integral part of the supply chain. The Sustainable Supply Chain is the key to success for any organization in the twenty-first century, as the integration of environmental, social and economic criteria allows the organization to achieve a long-term goal. This is one of the major reason why sustainability in the supply chain is enduring and not just a theoretical concept.

One of the interesting findings from the research is that it is proactive companies that are building sustainable products and supply chain; this demand does not rise from the customer end. This indicates that there are conscious efforts taken by some of the organizations and it would help further in creating a more sustainable ecosystem for the supply chain. Our hope is that our systematic review of the literature, coupled with our own perspectives and

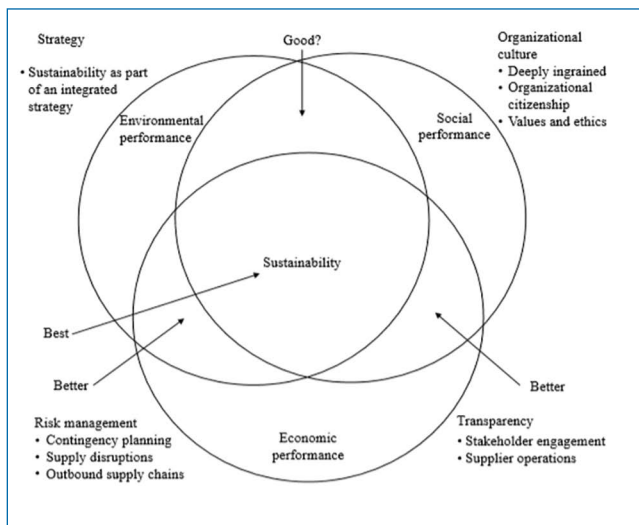


Figure 1. Sustainable supply chain management.

experiences will help meaningfully for future research in the field of Sustainable Supply Chain.

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