

Review on Supply Chain Management Research—An Indian Perspective

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Anand Gurumurthy
Gunjan Soni
Surya Prakash
Gaurav Kumar Badhotiya

Abstract

In India, Supply Chain Management (SCM) has gained significant importance due to opening up of domestic economy as a result of globalization. However, a review of literature revealed that not many papers are available which attempt to document and understand the importance of SCM within the Indian business context. Hence, the purpose of this research is to fill in this research gap by analyzing the contributions of academicians and practitioners addressing various supply chain issues—specifically from an Indian perspective. Papers focusing on SCM scenario in India were collected from multiple sources by following the established methodologies available in the literature for carrying out such reviews. Furthermore, a new taxonomy was proposed on the basis of content and research methodology utilized. Based on this taxonomy, significant trends were observed and some unique inferences were drawn, apart from identifying the directions for future research. It is hoped that this work would add value by offering a unique contribution to the body of knowledge on SCM, as there is no article available in the literature, which has attempted to summarize the works from India related to SCM.

Keywords

Supply chain (SC), supply chain management (SCM), literature review, India, taxonomy, classification

Introduction

Academicians and practitioners worldwide are showing significant interest to study about Supply Chain Management (SCM) since the 1980s. However, Indian companies did not give much importance to the concept of SCM as they were operating in a protective environment till 1990s, which was devoid of competition even amongst domestic players. Most of the businesses were controlled by the government through licensing. However, the de-regulation of the Indian economy through opening up of domestic markets in the last couple of decades has attracted global

players in every industrial sector and it brought along significant competition within the Indian businesses in general (Sahay & Mohan, 2003). The traditional ‘protective’ economic, industrial and organizational boundaries have been demolished (Saxena & Sahay, 2000). Although India, with a population base of more than a billion, is one of the fastest developing economies of the world, it needs a different approach to put its economy on the path of sustainable economic growth. While emerging markets offered opportunities, they also brought along new rivals. Information networks and technological convergence are re-defining the rules of economic and trading relationships

Anand Gurumurthy (corresponding author) is an Assistant Professor, Quantitative Methods & Operations Management (QM & OM) Area, Indian Institute of Management Kozhikode (IIMK), IIMK Campus, Kunnamangalam, Kozhikode, Kerala, India. E-mail: anandg@iimk.ac.in

Gunjan Soni is Assistant Professor, Department of Mechanical Engineering, Malaviya National Institute of Technology (MNIT), Jaipur, India. E-mail: gunjan1980@mnit.ac.in; gunjan1980@gmail.com

Surya Prakash is a Research Scholar, Department of Mechanical Engineering, Malaviya National Institute of Technology (MNIT) Jaipur, India. E-mail: suryayadav8383@gmail.com

Gaurav Kumar Badhotiya is a Postgraduate Student (Manufacturing Systems Engineering), Department of Mechanical Engineering, Malaviya National Institute of Technology (MNIT), Jaipur, India. E-mail: gkb.choudhary@gmail.com

within the country. Hence, it has become necessary for Indian organizations to look for methodologies and processes that produce maximum efficiency both within and beyond their operations (Sahay, 2000). Thus, more and more Indian organizations today are realizing the importance of developing and implementing a comprehensive Supply Chain (SC) strategy—and then linking this strategy to the overall business goals (Sahay & Mohan, 2003). Consequently, SCM as a concept and business function is evolving faster in Indian companies. In this context, the current research study has been undertaken to understand the percolation of SCM within the Indian academia and industries.

A cursory search of ‘Google scholar’ revealed many literature reviews. For instance, Shukla and Jharkharia (2013) presented a literature review on fresh produce SCM, while Sachan and Datta (2005) carried out a review of SCM and logistics research based on 442 papers that were published in the three academic journals—namely, *Journal of Business Logistics*, *International Journal of Physical Distribution & Logistics Management*, and *Supply Chain Management: An International Journal*, during 1999–2003. Apart from these two, there were many other reviews that attempted to consolidate and summarize the works that were carried out in diverse topics within the domain of SCM (see ‘Literature Review’ section for more details). However, not many reviews are available in the literature that attempts to understand the role of SCM within Indian businesses, although more than two decades have gone by since the emergence of SCM in India. It was also supported by Soni and Kodali (2012) in their literature review that hardly 5 per cent of studies in a sample of 619 articles were addressing SCM issues in the Asian continent. Hence, in this article an attempt has been made to fill-in this research gap by carrying out a literature review of SCM-related

research articles specifically focusing on Indian context and meaningful inferences from diverse perspectives such as SCM content and research methodologies are drawn up. It is also revealed from the research of Soni and Kodali (2013) that no such literature review exists on SCM in the Indian context and hence it is hoped that this work would add significant value to the body of knowledge on SCM.

The article is organized as follows: The second section discusses literature reviews in SCM, and the third section deals with methodology chosen for carrying out a structured review on SCM. The proposed taxonomy and its associated structural attributes are explained in detail in this section. The fourth section provides a discussion on the results based on such taxonomy, while the fifth section ends with conclusions.

Literature Review

Meredith (1993) defined a literature review as a summary of the existing literature by finding research focus, trends, and issues. On the other hand, Harland *et al.* (2006) argued that a literature review can even help in filtering out the conceptual content of the domain apart from contributing to theory development. The huge literature body of SCM has led to numerous literature reviews in the past 15 years. Table 1 shows a sample of review papers within the domain of SCM.

From these reviews, it can be found that a good number of review papers focusing on diverse topics are already available within the domain of SCM. But not many papers are available that reviewed the literature on SCM from the perspective of understanding the contributions of academic and practitioners towards the body of knowledge especially from the Indian perspective. This missing link motivated us to carry out this study.

Table 1. A Sample of Review Papers Within the Domain of SCM

S. No.	Author(s)	Year	Remarks
1.	Shukla and Jharkharia	2013	Presented a literature review on the fresh produce supply chain management (FSCM) and classified it on the basis of structural attributes such as problem context, methodology, product under consideration, geographic region and year of publication. They concluded that although there is an increase in interest towards FSCM, still there is an absence of a journal with the prime attention towards FSCM.
2.	Soni and Kodali	2013	Reviewed 57 frameworks in SCM with an objective of revealing the dominant constructs in SCM.
3.	Soni and Kodali	2012	Presented a classification of scheme based on empirical research methodology used in SCM.
4.	Soni and Kodali	2011	Presented a classification of scheme-based SCM content in empirical literature.
5.	Akyuz and Erkan	2010	Reviewed the literature on SC performance measurement, with the objective of revealing the basic research methodologies/approaches followed; problem areas and requirements for the performance management of the new SC era.

S. No.	Author(s)	Year	Remarks
6.	Sarac <i>et al.</i>	2010	Analysed the state-of-the-art on Radio Frequency Identification (RFID) technology deployments in SCs to understand the impact on the SC performance, potential benefits gained, particularly against inventory inaccuracy problems, the bullwhip effect and replenishment policies. They reviewed various works addressing analytic modelling, simulations, case studies and experiments apart from ROI analyses.
7.	Gosling and Naim	2009	Presented a comprehensive literature review on Engineer-to-Order (ETO) supply chains and contributed to the development of a more robust definition of the ETO supply chain. Furthermore, they also reviewed different strategies for ETO SCs apart from investigating the relationship of the ETO sector with lean and agile approaches.
8.	Melo <i>et al.</i>	2009	Conducted a literature review of facility location models in the context of SCM.
9.	Rao and Goldsby	2009	Performed a literature review to understand risks in SC and created a topology for SC risks.
10.	Arshinder <i>et al.</i>	2008	Have thrown light on the importance of SC coordination.
11.	Gunasekaran and Ngai	2005	Reviewed Build-to-Order Supply Chain management (BOSC) based on the following four major areas of decision-making: organizational competitiveness, the development and implementation of BOSC, the operations of BOSC and information technology in BOSC.
12.	Meixell and Gargeya	2005	Carried out a review on the decision support models for the design of global SC to assess the fit between the research literature in this area and the practical design issues. Their review dimensions included (a) decisions addressed in the model, (b) performance metrics, (c) the degree to which the model supports integrated decision processes, and (d) globalization considerations.
13.	Power	2005	Reviewed a sample of the literature relating to the integration and implementation of SCM practices from a strategic viewpoint
14.	Sachan and Datta	2005	Examined the past research from 1999–2003 based on 442 papers related to SCM and logistics that were published in the three academic journals, <i>Journal of Business Logistics</i> , <i>International Journal of Physical Distribution & Logistics Management</i> , and <i>Supply Chain Management: An International Journal</i> , during the above-mentioned period and concluded that more advanced techniques are being used for data analysis in empirical studies and the trend in survey research is moving from exploratory to model building and testing.
15.	Grieger	2003	Carried out a literature review on the role of electronic marketplaces within SCM.
16.	Danny <i>et al.</i>	2002	Conducted a critical review on those research works that dealt with empirical research and concluded that SCM constructs are perceived narrowly from the perspective of a particular traditional function of a firm and the dominant conceptual SCM models are focusing mainly on the practices-performance relationship and overlooking the context-practices relationship.
17.	Van Hoek	2001	Reviewed the literature on postponement dating back to 1965 and classified them using a systematic framework and thereby identified opportunities for integration and cross-fertilization between disciplines such as logistics and operations management.

Source: Authors.

Methodology

Among the above-mentioned reviews summarized in Table 1, Shukla and Jharkaria (2013) analyzed the advantages and disadvantages of the review process and enumerated a four-step approach for conducting a systematic literature review proposed by Rousseau, Manning and Denyer (2008), which is shown below:

1. question formulation;
2. comprehensive identification of relevant research;
3. organizing and interpreting; and
4. synthesis.

In this article too, a methodology, which is fairly similar to that of Rousseau *et al.* (2008) has been utilized and the same is described below:

Question Formulation

This step is very important as it will establish the theme of the review and thereby help in enhancing the level of understanding within the chosen domain. The objective of this review, as it was mentioned earlier, is to understand 'the importance of SCM as a business function and its associated practices within the domain of Indian business

apart from understanding the contributions of various academicians, researchers and practitioners towards the body of knowledge on SCM'. It attempts to unravel the answer(s) for the following research question—'what is the current status of literature in addressing the different SC issues within the context of Indian business?'

Comprehensive Identification of Relevant Research

According to Shukla and Jharkharia (2013), a critical analysis of the research papers would reveal several unnoticed trends in the literature. But the challenge in analyzing the whole literature is that it keeps increasing with the development of the domain. Therefore, it is imperative to have some limiting criteria to provide comprehensive reviews within the defined boundary. This section details the methodology that was adopted in selecting the papers based on the limiting criteria and the defined boundaries. In particular, the methodology followed by Shukla and Jharkharia (2013) was utilized to identify the comprehensive list of related articles.

Article selection: Initially, a significant amount of literature was collected by searching through general databases such as 'Google Scholar' and 'EBSCO' using a combination of keywords such as 'supply chain' and 'India'. It included research papers from peer-reviewed journals, conference proceedings, project reports, white papers, presentations from the industry and MS/PhD theses. More than 500 such documents were collected from various sources. A cursory glance at the title as well as abstract revealed that there is a large amount of repetition of the research material itself; as working papers and conference proceedings are later getting converted into journal

papers, while the MS/PhD theses or project reports may lead to conference/journal publications. Therefore, to reduce the repetition and to enhance the acceptability of the source from where the papers are collected, it was decided to consider only those research papers that are published in peer-reviewed journals.

A keyword/phrase search was used to identify as many research articles as possible. In order to find out the representative set of sample from a population of research articles, different keywords like India, Supply Chain, Logistics, etc., were used to search as per various article search criteria, for example, title, abstract, keywords, etc., in various research databases such as Emerald (www.emeraldinsight.com), Elsevier (www.sciencedirect.com), Springer (www.springerlink.com), Wiley (www.wiley.com), etc., that are available through institutional e-repository. Table 2 shows the details of articles searched in terms of distribution of articles with respect to each of the search criterion.

It should be noted here that since studies dealing with SCM issues related to India has to be collected, a combination of keywords and search criteria was used as shown in Table 2. Most of these search combinations resulted in different output. However, the results obtained with the criteria of 'searching (keywords) in all fields'—especially, search criteria '5' and '10' in Table 2 were ignored although the results obtained were very huge, as it listed out all the articles which includes these search terms in the full text/body of the articles. The reasons for ignoring the results are as follows:

- It is assumed here that 'most of the authors would never miss to provide the search terms (for example, India, supply chain, logistics, etc.) either in the title or as keywords, as it would

Table 2. Distribution of Articles with Respect to Each of the Search Terms

S. No.	Search Criteria	Emerald	Taylor & Francis	Wiley	SAGE	Science Direct	Total
1.	'Supply chain' in article title and 'India' in article title	4	2	2	1	4	13
2.	'Supply chain' in article title and 'India' in abstract	18	12	5	4	10	49
3.	'Supply chain' in article title and 'India' in keywords	26	1	2	0	3	32
4.	'Supply chain' in keywords and 'India' in keywords	41	0	1	1	7	50
5.	'Supply chain' & 'India' in all fields	2248	9865	22401	639	21472	56625
6.	'Logistics' in article title and 'India' in article title	1	0	1	2	5	9
7.	'Logistics' in article title and 'India' in abstract	8	3	2	5	12	30
8.	'Logistics' in article title and 'India' in keywords	6	1	0	1	2	10
9.	'Logistics' in keywords and 'India' in keywords	4	0	0	1	5	10
10.	'Logistics' & 'India' in all fields	1562	3006	4444	2583	16556	28151

Source: Authors.

deprive them a chance to get their article cited easily’.

- Secondly, it would be very common to find such search terms to be listed at least once within text; although the paper might be from different field/area/scope. The paper may discuss issues that are faintly related to SCM but may include the words, for instance, India, supply chain, logistics, etc., in the full text of the paper.

The results obtained from the remaining search activities were consolidated to eliminate the repeating articles through manual observations of title, author(s), journal name, volume and issue numbers, etc. The initial pool of 203 was reduced to mere 125. Apart from this, most of these published papers refer to similar papers in the literature. Hence, cross referencing was also used to find other relevant papers, which was missed during the keyword searches. In this manner, additional 25 papers were added to the list.

Establishing boundaries: To filter out the most relevant articles from the above pool, limiting boundaries were developed. The details regarding the same are given below:

1. papers published only in peer-reviewed journals were considered;
2. papers were collected for a period of 15 years (1998–2012); and
3. papers addressing SC issues with India as prime focus were only considered.

A paper which satisfies all these conditions was included in the study. For example, a paper titled ‘Service Quality in Supply Chain: Empirical Evidence from Indian Automotive Industry’ (Prakash, 2011) was published in a peer-reviewed journal in year 2011. This paper is addressing the issue of service quality of Indian automotive industry. Hence, this paper has been included in the list to be studied. On the other hand, the paper titled ‘The Agile Supply Chain: Competing in Volatile Markets’ (Christopher, 2000), which was obtained through cross referencing was not included into the sample, because it merely included the words ‘logistics’ and ‘supply chain’ in the body of the text, but the rest of the paper is not related to the study of ‘SCM from Indian perspective’, rather it tends to highlight the need of agile SC as a strategy. After carrying out such a thorough check, significant number of papers were left out whose prime focus was not on SCM or not related to India or Indian organizations. Thus, at the end of this stage, about 70 papers were identified and consolidated for further review. Table 3 shows the number of articles obtained

Table 3. Number of Articles in Each Publication

S. No.	Publisher’s Name	No. of Paper(s)
1.	Emerald	46
2.	Science Direct	9
3.	Sage	6
4.	Wiley	3
5.	Taylor & Francis	6
	Total	70

Source: Authors.

from different publisher’s website after establishing the boundaries. The details of selected papers are presented in Appendix 1.

Organizing and Interpreting

The next step is to organize the obtained papers to draw out meaningful interpretations. It involves establishing the structural attributes for classification of the articles. Shukla and Jharkharia (2013) noted that either a deductive (structural attributes are defined first and then the material is collected) or an inductive approach (structural attributes are identified by means of a generalization) can be used to define structural attributes and the corresponding analytical categories. However, they found that it is better to use both the approaches iteratively. They also argued about the constraints in management research, for example, inability to reproduce, novelty, heterogeneity of data, etc., and clarified that the synthesis can be improved by the categorization of literature in order to have an enhanced understanding of the literature within the category. Hence, necessary taxonomy was established, which integrated various structural attributes. The obtained papers were classified based on the following two major schemes as defined in Soni and Kodali (2011, 2012):

1. Content based
2. Research based

These classifications have been described in detail in the following sections.

Content-based Classification

The content-based classification is carried out by considering the following attributes and the description of the same are presented here.

1. **Entity of analysis:** SC consists of various entities such as the manufacturer, supplier, retailer,

Table 4. Articles Classified by Entity of Analysis

S. No.	Entity of Analysis	Number of Papers	Paper Code in Appendix I
1.	Combination	30	[2, 3, 5, 9, 10, 14, 16, 17, 22, 23, 24, 26, 36, 37, 41, 42, 44, 45, 46, 47, 49, 50, 51, 52, 54, 57, 58, 59, 66, 69]
2.	Distributor	3	[48, 55, 65]
3.	Health service	1	[25]
4.	Logistics provider	3	[1, 20, 43]
5.	Manufacturer	19	[4, 6, 7, 8, 12, 13, 15, 27, 28, 29, 30, 33, 40, 53, 60, 62, 67, 68, 70]
6.	Retailer & manufacturer	1	[18]
7.	Supplier	9	[11, 19, 21, 31, 34, 35, 39, 63, 64]
8.	Supplier & manufacturer	4	[32, 38, 56, 61]
	Total	70	

Source: Authors.

distributor and the customer. Entity of analysis represents the focal entity under analysis in a given research article. These entities might be either from inbound side or outbound side of SC or as a whole. The entity of analysis can be identified based on the general theme of the article apart from a cursory reading of the title, abstract, keywords and full text/body of the paper. By doing this exercise the practical aspect of the research can be recorded. Table 4 shows the distribution of articles classified based on the entity of analysis.

For example, the article by Charan (2012) (see Reference No. 27, Appendix 1, which would be abbreviated as 'RXX, AY' from now on for ease of writing and understanding) focuses on understanding the performance measurement related to SCM in a case organization from the automotive sector. Hence, it can be easily inferred that the entity considered is the manufacturer—that is, the automotive company and the performance measures related to SCM were prescribed for this case organization. However, if there are papers, which address SCM aspects in general irrespective of any such entities, then they are classified under 'combination'. Especially, those articles that deal with survey-based approach, might have involved organizations that constitute different entities of SC for getting the responses and hence may not have such

differentiation. For example, Sahay, Gupta and Mohan (2006) (R3, A1) studied the SCM practices within the Indian industry through a survey-based approach in which the responses for their questionnaire are obtained from different organizations falling under the different entity of analysis. Hence, it is classified under the category of 'combination'.

2. **Level of analysis:** The SC can be analyzed at different levels. One may study the interactions between any two or more of the several entities in SC. This classification is adopted from Croom, Romano and Giannakis (2000), who suggested only three levels, that is, dyadic, chain and network. A fourth level, 'firm' is used by Gubi, Arlbjørn and Johansen (2003), Halldorsson and Arlbjørn (2005), Sachan and Datta (2005) and Giunipero, Hooker, Matthews, Yoon and Brudvig (2008). Hence, in this review, a hybrid classification scheme suggested by Soni and Kodali (2011), which is obtained by integrating the classification schemes of Gubi *et al.* (2003) and Croom *et al.* (2000) to create four levels of analysis, is used for classification. Table 5 shows the list of articles classified by the level of analysis.

In an article, the author(s) would have attempted to focus on a single organization to describe a particular situation or enumerate evidence to bolster their research findings. Under such a situation, the level of analysis is just carried out on a single firm.

Table 5. Categorization of Articles Based on Level of Analysis

S. No.	Level of Analysis	Number of Papers	Paper Code in Appendix I
1.	Chain	18	[2, 7, 9, 14, 17, 22, 26, 33, 37, 42, 45, 55, 58, 59, 61, 62, 66, 67]
2.	Dyad	6	[5, 11, 21, 32, 63, 64]
3.	Firm	23	[4, 8, 13, 15, 16, 19, 20, 25, 27, 29, 34, 40, 47, 48, 49, 50, 51, 52, 53, 56, 60, 65, 70]
4.	Network	23	[1, 3, 6, 10, 12, 18, 23, 24, 28, 30, 31, 35, 36, 38, 39, 41, 43, 44, 46, 54, 57, 68, 69]

Source: Authors.

Hence such papers are categorized under a classification scheme named as 'Firm'. For instance, Kapoor and Ellinger (2004) (R8, A1) discussed how the SC operations of a motorcycle manufacturer in India were transformed as part of their economic reforms. In this article, the focus is merely on a single organization, whose SC was changed. Hence it is classified under 'firm' in Table 5. On the other hand, some of the papers would discuss the interaction between any two entities of the chain and such papers would fall under 'Dyad'. For example, Joshi, Singh and Kumar (2012) (R32, A1) discussed about the two-sided supplier manufacturer selection in a Built-to-Order (BTO) SC. In this case, the focus of analysis is on both the supplier and manufacturer—that is, the interactions happening between two levels of the SC on the upstream side. Hence, it is classified under 'Dyad' in Table 5. Similarly, further levels in the supply chain are 'Chain' (where three or more parties are involved in the interactions) and 'Network' (representing real-life supply chains that have more than one member at the same level of the chain). Hence, papers dealing with interaction between several members in different stages of the SC were classified accordingly.

3. **Element of exchange:** Croom *et al.* (2000) also explained that the interaction between the SC members can be based on various factors, for instance, exchange of asset, information, inventory, knowledge, relationship, etc. These factors are called

as the element of exchange. Hence, one can also establish the taxonomy based on the element of exchange that happens between different entities under various stages of the SC. Table 6 shows the categorization of articles based on the element of exchange.

For instance, Rahman (2004) (R33, A1) tried to understand the 'use of Internet within the SCs of Indian companies'. Hence, it is inferred that this article focuses on information alone as the element of analysis and accordingly it is classified in Table 6. However, it is not necessary that every interaction between the SC members must have a definite singular element of exchange. Some of the articles predominantly use 'combination of various elements of exchange' in the analysis (Soni & Kodali, 2011). De Haan, Groot, Loo and Ypenburg (2003) (R50, A1) discussed about the flow of goods—in particular the flow of natural rubber from the industries in Kerala, India. This paper addresses the flow of information as well as inventory between different stages of SC. Hence, the element of exchange is 'information and inventory'.

4. **Performance measurement:** A research becomes more valuable when it reports about enhanced performance of the organization or any of the entity(s) of SC. The importance of performance measurement is justified by Kaplan (1990). Table 7 shows the distribution of articles which are classified based on performance measurement.

Table 6. Articles Classified by Element of Exchange

S. No.	Element of Exchange	Number of Papers	Paper Code in Appendix I
1.	Asset	2	[9, 44]
2.	Information and inventory	12	[1, 3, 4, 21, 23, 39, 48, 50, 52, 56, 63, 64]
3.	Information	46	[2, 5, 7, 8, 10, 11, 15, 16, 17, 18, 19, 20, 22, 24, 25, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 40, 42, 43, 45, 46, 47, 49, 51, 53, 54, 55, 57, 58, 59, 60, 61, 62, 65, 66, 67]
4.	Not applicable	10	[6, 12, 13, 14, 26, 32, 41, 68, 69, 70]

Source: Authors.

Table 7. Distribution of Articles Based on Performance Measurement

S. No.	Performance Measurement	No. of Papers	Paper Code in Appendix I
1.	YES	24	[1, 3, 5, 7, 10, 13, 18, 19, 22, 24, 27, 28, 29, 31, 36, 38, 41, 42, 44, 46, 50, 51, 68, 69]
2.	NO	46	[2, 4, 6, 8, 9, 11, 12, 14, 15, 16, 17, 20, 21, 23, 25, 26, 30, 32, 33, 34, 35, 37, 39, 40, 43, 45, 47, 48, 49, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 70]

Source: Authors.

Table 8. Articles Classified by Area of Research/SCM Issue Addressed

S. No.	Area of Research or SC Issue Addressed	No. of Papers	Paper Code in Appendix I
1.	Collaboration management	4	[16, 18, 56, 70]
2.	Comprehensive construct	8	[14, 26, 37, 38, 39, 44, 54, 69]
3.	Information technology	3	[12, 33, 58]
4.	Integration	4	[23, 24, 40, 45]
5.	Logistics management	8	[5, 20, 48, 52, 55, 59, 60, 66]
6.	Manufacturing management	1	[13]
7.	Strategic management	33	[2, 3, 6, 7, 8, 9, 10, 11, 15, 17, 19, 21, 22, 25, 27, 28, 29, 30, 31, 41, 42, 46, 47, 50, 51, 53, 57, 61, 62, 63, 64, 65, 68]
8.	Supplier management	9	[1, 4, 32, 34, 35, 36, 43, 49, 67]

Source: Authors.

For example, Sagheer, Yadav and Deshmukh (2009) (R44, A1) developed a conceptual framework for assessing the competitiveness of India's agrifood chain based on various performance measures and metrics. This paper explicitly talked about the role of performance measures in evaluating the SC and hence it is classified accordingly in Table 7.

5. **Areas of research/SCM issues:** As mentioned earlier, the papers in the realm of SCM deal with variety of issues. This includes strategy, logistics, warehouse, performance measurement, etc., which gives an idea about the focal/decision areas of SCM. Hence, the reviewed papers were also classified according to the decision/research area it addressed, as shown in Table 8.

For example, Kaushik (2009) (R56, A1) addressed the issue of 'collaboration between various organizational entities' by studying the case of a consumer packaged goods network. Hence, it is classified under the issue of 'collaboration' in Table 8, which is gaining importance in recent times in the field of SCM.

Research-based Classification

This classification studies the details of the research process employed. The following are the various structural attributes under this scheme.

1. **Research outlets:** This gives the details of the journals, which published articles related to SCM practices in Indian context. This would help in understanding the effort of researchers and practitioners from various disciplines apart from examining the spectrum of journals that publishes papers related to SC issues from the Indian context. Table 9 presents the list of the journals that published

Table 9. List of the Journals that Published Various Articles from an Indian Perspective

S. No.	Classification Scheme	Name of Journal	No. of Papers Published	Reference
1.	SCM & OM	APJML	1	[24]
2.		CIE	1	[46]
3.		ECRA	1	[49]
4.		EJOR	1	[53]
5.		IJPDLM	2	[1, 2]
6.		IJPE	2	[50, 51]
7.		IJPR	3	[63, 64, 65]
8.		IJQRM	1	[13]
9.		IJRDM	1	[41]
10.		IMDS	3	[33, 34, 35]
11.		ITIOR	1	[60]
12.		JMTM	3	[21, 22, 23]
13.		PPCMO	3	[66, 67, 70]
14.		RTE	1	[52]
15.		SCMIJ	8	[3, 4, 5, 6, 7, 8, 9, 68]
		Sub-total	32	
16.	General Management	APBR	1	[59]
17.		BIJ	3	[29, 30, 31]
18.		BPMJ	2	[42, 45]
19.		IIMBMR	1	[54]
20.		IJEM	1	[44]
21.		IJPPM	4	[15, 16, 17, 18]
22.		JAMR	5	[36, 37, 38, 39, 40]
23.		JMM	2	[32, 43]
24.		MBE	2	[27, 28]
25.		MD	2	[19, 20]
26.		MRN	1	[26]

S. No.	Classification Scheme	Name of Journal	No. of Papers Published	Reference
27.		VISION	4	[56, 57, 58, 69]
		Sub-total	28	
28.	Others	BFJ	1	[14]
29.		IJHCQA	1	[25]
30.		IMCS	1	[12]
31.		JAЕ	1	[61]
32.		JAPP	1	[55]
33.		JBIM	1	[11]
34.		RCR	2	[47, 48]
35.		SD	1	[62]
36.		TLO	1	[10]
			Sub-total	10

Source: Authors.

various articles related to the SC issues from an Indian business perspective.

From this table, almost 50 per cent of the journals are related to OM/SCM, which accounted for almost 50 per cent of the reviewed articles. Journals from 'general management (that focus on all areas of management without any specialisation)' too have published a good number of articles related to SCM. Apart from this, there are few journals from other scientific disciplines such as information technology and economics, which have also published articles related to SCM. For example, articles on reverse logistics (R48, A1), green SCM (R47, A1), etc., actually dealing with SCM, but considering the recent importance towards environment and sustainability, these papers were published in journals that

addressed these areas. Hence, they were classified as 'others'.

- Year:** This gives the year in which the paper was published in the journal. The purpose of this classification is to understand growth and importance of SCM over the years. Figure 1 shows the trend of SCM literature that addresses the issues of SCM from an Indian perspective for the last 15 years. It is obtained by counting the papers that are published in different journals during a given year.

It is evident from Figure 1 that in recent times, there is an increasing interest among the Indian researchers and practitioners in addressing the various issues of SCM within the Indian businesses.

- Type of data:** This refers to the type of data collected: quantitative data is the one in which a specific numerical value and a physical unit is allocated to the variable. Qualitative data is not necessarily quantified—for example, it may refer to yes/no replies, grading of replies, for example, absolutely necessary, necessary, fine, undesirable, etc. (Soni & Kodali, 2012). Triangulation of data is done when various qualitative and quantitative data collection methods are used together. The reviewed papers were also classified as per the type of data used as shown in Table 10.

Some quantitative data analysis tool worth mentioning are factor analysis, descriptive statistics, *t*-tests and regression analysis, etc., which were widely used in survey-based research, while tools like benchmarking (R30 A1), SAP-LAP framework (R39 A1), etc., would fall under the qualitative techniques. It is very much clear from Table 10 that quantitative research is highly preferred to study the SC issues within the Indian context.

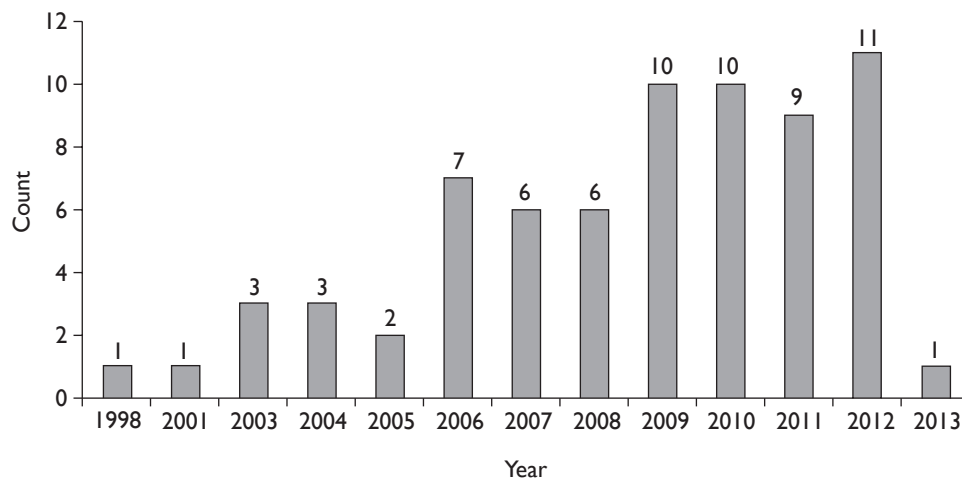


Figure 1. Frequency of Publications of Reviewed Papers

Source: Developed by the authors.

Table 10. Articles Classified by the Type of Data Collection

S. No.	Type of Data Collection	No. of Papers	Paper Code in Appendix I
1.	Quantitative	42	[1, 2, 3, 5, 6, 7, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 25, 28, 29, 32, 33, 35, 36, 38, 41, 43, 48, 49, 51, 52, 56, 58, 60, 61, 62, 64, 65, 66, 67, 68, 69, 70]
2.	Qualitative	28	[4, 8, 9, 10, 11, 12, 22, 24, 26, 27, 30, 31, 34, 37, 39, 40, 42, 44, 45, 46, 47, 50, 53, 54, 55, 57, 59, 63]

Source: Authors.

Table 11. Articles Classified by Methodologies Used

S. No.	Methodologies	No. of Papers	Paper Code in Appendix I
1.	Empirical	53	[1, 2, 3, 5, 6, 7, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 25, 28, 29, 32, 33, 35, 36, 38, 41, 43, 48, 49, 51, 52, 56, 58, 60, 61, 62, 64, 65, 66, 67, 68, 69]
2.	Desk based	17	[8, 12, 14, 16, 26, 32, 34, 35, 37, 38, 42, 44, 46, 54, 55, 57, 70]

Source: Authors.

4. **Research design:** This refers to the research instrument and methodologies used in the study (Flynn, Kakibara, Schroeder, Bates & Flynn, 1990). One can use different methodologies such as the following:

- Empirical
 - Case study
 - Survey
 - Focus group
 - Action research

Table 12. Articles Classified by Research Design

S. No.	Research Instrument/Design	No. of Papers	Paper Code in Appendix I
1.	Survey	19	[1, 2, 3, 5, 6, 7, 18, 19, 21, 23, 28, 33, 43, 58, 59, 66, 67, 68, 69]
2.	Case study	35	[4, 8, 9, 10, 11, 13, 15, 17, 20, 22, 24, 25, 27, 29, 30, 32, 36, 39, 40, 45, 47, 48, 49, 50, 51, 52, 53, 56, 60, 61, 62, 63, 64, 65, 70]
3.	Literature survey	8	[12, 14, 35, 38, 46, 54, 55, 57]
4.	Conceptual model	3	[34, 37, 42]
5.	Structure model	1	[16]
6.	Framework	1	[14]
7.	Focus group	2	[31, 41]
8.	Not available (NA)	1	[26]

Source: Authors.

- Desk based
 - Literature review
 - Mathematical modelling
 - Simulation
 - Experiment

The reviewed articles are organized based on the above classification mechanism. A brief about the same is presented in the following:

- a. **Methodologies used:** Table 11 shows the categorization of articles based on the methodologies used.

It can be found that empirical research is highly preferred in addressing the various issues of SC within the Indian context. Many papers, for example, Saad and Patel (2006) (R31, A1); Dev, Caprihan and Swami (2011) (R36, A1), etc., have utilized the empirical research methods such as surveys, focus groups, etc.,. On the other hand, the article by Kannan, Pokharel and Kumar (2009) (R48, A1) used a hybrid mathematical model by combining Interpretive Structural Modelling (ISM) and fuzzy Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) to select a suitable logistic service provider for enabling reverse logistics using a case. This is a perfect example of a desk-based research, which involves mathematical modelling using Multi Criteria Decision Making (MCDM) models.

- b. **Types of research design:** Table 12 provides a classification of the reviewed articles based on the research design methods employed.

It can be seen that all forms of research design have been used in the papers reviewed. The survey method relies on self-reports of factual data, as well as opinion. One approach is to administer a survey to a group which is homogeneous with respect to at least one characteristic, such as industry or use of a common technology. For example, Shukla, Deshmukh and Kanda (2009)

(R38, A1) conducted a survey to understand about the environmentally responsive supply chain within the Indian auto sector. They attempted to understand the practices and performance measures that can capture the environmental impact due to the SC activities of the Indian auto sector. On the other hand, the case study documents in detail, the operations of a single plant/chain/network. This may be used in conjunction with survey research, or some other type of comprehensive data gathering effort, to develop explanations for some of the findings on a more comprehensive basis. Baidur and Macario (2013) (R52, A1) analyzed the case study of Mumbai Dabbawallahs (lunch box delivery system) to understand whether such a system can be transferred and replicated in an urban logistic set-up. Apart from this, there is significant number of literature reviews in the field of SCM as evident from Table 1. Similarly, other papers that are conceptual in nature are classified accordingly. Among the 70 papers, there was one article by Thakkar, Kanda and Deshmukh (2009) (R26, A1) which did not use any methodologies as it was an introductory paper about the role of SC performance within the Small and Medium Sized Enterprises (SMEs). Hence it is classified under a category called ‘Not available (NA)’.

5. **Sample industry:** Supply chain research is not restricted to any particular industry. This classification is based on Burgess, Singh and Koroglu (2006) and this criterion helps us in identifying possible sectors of SCM research as well as highlight sectors that received inadequate attention among researchers and practitioners (Soni & Kodali, 2012). Table 13 shows the categorization of articles by industry sector.

It can be found that the paper by Raghuram (2004) (R60, A1) addressed the issue of logistics in distributing the tractor—a key resource in the agriculture-driven economy. He used a case study of a tractor manufacturer to highlight the issues faced. Although the company considered is a vehicle manufacturer, it has been classified under the agricultural sector, as the focus of the entire article is about the agricultural economy. On the other hand, the case study by Kannabiran and Bhaumik (2005) (R9, A1) addressed the issue of corporate restructuring through effective SCM of a leading jewellery manufacturer. Hence, this is directly categorized under the industry sector of Jewellery. Some papers which were based on mathematical models did not mention any particular industry. Hence, such papers are classified under a separate category called

Table 13. Articles Classified by Industry

Industry	No. of Papers	Paper Code in Appendix I
Aerospace	1	[4]
Agriculture	5	[50, 53, 60, 61, 62]
Aid Agencies	1	[39]
Automobile	14	[5, 8, 20, 24, 27, 30, 31, 32, 34, 38, 51, 63, 64, 66]
FMCG	6	[13, 23, 40, 56, 59, 65]
Health Services	1	[25]
Jewellery	1	[9]
Logistics	2	[1, 43]
Manufacturing	5	[36, 37, 47, 48, 70]
Multiple	10	[2, 3, 6, 7, 16, 19, 28, 33, 45, 68]
Not Available (NA)	5	[42, 46, 54, 57, 58]
Paint	1	[15]
Perishable Food Industry	6	[14, 17, 44, 49, 52, 55]
Public Sector Unit	1	[35]
Retail Sector	3	[18, 41, 69]
Services	2	[11, 12]
SME	5	[10, 21, 22, 26, 29]
White Goods	1	[67]

Source: Authors.

Notes: SME: Small & Medium Enterprise; FMCG: Fast Moving Consumer Goods.

‘Not available’. For instance, the article by Gupta and Palsule-Desai (2011) (R54, A1) reviewed the literature on sustainable SCM and hence did not mention about any of the industries. Hence, this article is classified under the category of ‘Not available’. On the other hand, those papers which dealt with survey collected information from multiple companies and hence they were grouped under another category called ‘multiple’. Jharkharia and Shankar (2006) (R6, A1) attempted to understand the sectoral differences in the practices of SCM by conducting a survey, which involved companies from different industrial sectors. Hence, this article is grouped accordingly.

Results and Discussion

Although the SCM literature has evolved a lot in the past few decades, there are certain trends which are clearly visible. Identifying such trends and finding answers for such behaviour is referred as ‘synthesis’—the fourth step in the systematic approach proposed by Rousseau *et al.* (2008).

On the basis of the organization of different papers under various categories, meaningful results are synthesised. The results are presented in the same order as per the taxonomy discussed in the previous section for ease of understanding.

Content-based Classification

1. **Entity of analysis:** From Table 4, it can be found that there are total eight different entities. About 43 per cent of the articles (30 out of 70) have considered combination of entities for analyzing. This shows that most of the Indian studies too have attempted to study SCM as a whole, rather than viewing it as individual entities. However, about 27 per cent of the articles attempted to analyze an individual entity—namely, the manufacturer. Since the manufacturer always plays a central role in SC, by having linkages at both upstream and downstream end, it is natural that manufacturer deserves special attention in comparison to other individual entities, for instance, distribution (only 3 papers), supplier (only 9 papers), logistics service provider (3 papers), etc.,. However, it is surprising to find that studies dealing with two entities such as supplier and manufacturer, retailer and manufacturer, etc., are very limited. Hardly, 5 per cent of the reviewed papers attempted to study the same. This shows that such interactions have not got adequate importance by the Indian contributors and warrants a much detailed study. Furthermore, the entities in downstream side of SC are not given adequate importance.
2. **Level of analysis:** Table 5 revealed that almost equal number of papers (about 33 per cent) are focusing at both ‘firm’ (23 papers) as well as ‘network’ (23 papers), while the analysis at ‘dyad’ level (that is, between two stages) is least preferred within the Indian context—only six papers were found under this category. The obtained results also corroborates with the results obtained in ‘entity of analysis’, where the papers dealing with two levels are comparatively less. This is in line with the theory proposed by Christopher (2000), who highlighted that ‘it is the supply chain that competes and not the individual organisation’. Hence, it is evident that Indian researchers and practitioners are also concerned about the holistic approach towards analyzing the SC issues. At the same time, the researchers and practitioners are equally concerned about the analysis happening at the individual level—that is, at organizational level. This might be due to the fact

that ‘it is easy to control, change and lead a single organisation towards the required vision and mission’, while it becomes difficult if there are network of organizations. Furthermore, any changes would start internally in an organization and once it becomes successful, it is replicated to other entities of the SC. For instance, Anbanandam *et al.* (2011) (R18, A1) addressed the evaluation of Supply Chain Collaboration (SCC) using a single case of a retail industry. The focus is on understanding the practices/policies of the retail industry in establishing SCC apart from quantifying the same. The importance towards the analysis at network and firm level may probably be due to various factors, for example, globalization, opening up of economy, political factors, etc., as this would affect both the individual and a network of firms. For example, the case of Tata Motors is a perfect example of both firm-level and network-level analysis of SC. Due to political issues, the company as an individual entity was forced to shift its manufacturing location, which in turn also affected their strategic suppliers and the entire network of suppliers too moved along with Tata Motors to the new location. This example also substantiates the importance of analysis at both firm and network level.

3. **Element of exchange:** Based on Table 6, it can be inferred that asset and inventory as elements of exchange are less discussed in SCM within the Indian context, however about 46 articles (that is, 68.6 per cent) of articles are dealing with information exchange only. This is in line with the general theory of SCM that information plays a vital role as an essential driver of the SC and consequently, the ‘information distortion’ creates major havoc within any SC. Hence, most of the Indian researchers and practitioners too have given adequate importance to ‘information’ as the element of exchange than inventory, assets, skills, etc.,. The other element—inventory comes second in terms of importance, because the inventory built up is dependent on the information flow. Although it is given less preference than the information, it is in line with the general argument that inventory should also be given equal importance as information, while addressing the element of exchange. However, there were about 10 papers, which did not address any of these elements, as they addressed different research questions such as effect of agile SC distribution practices and its impact on performance (Khan *et al.*, 2009—R68 A1), role of retailing practices and its impact on performance (Singh, Sandhu, Metri & Kaur, 2010—R69 A1), etc.

4. **Performance measurement:** From Table 7 it is evident that in Indian perspective most of the articles (about 67 per cent) did not focus on the performance measurement. However, this result should be inferred with adequate caution because some of the topics/issues that are addressed by the contributors may not warrant the performance measures to be studied. For example, Banker and Mitra (2007) (R53, A1) were explaining the role of procurement models in agricultural SC with the help of online coffee auctions in India. This article need not address about the performance measures, as it might be beyond the theme of the article. On the other hand, there are good numbers of articles such as (R5, A1), (R67, A1), (R46, A1), etc., which explicitly addressed the role of performance measurement in SC. Another unique observation is that a majority of the papers include performance measurement talk about information exchange as well. This shows that information is crucial for performance measurement in SC even within the Indian context.
5. **Area of research (SCM issue):** Based on Table 8, it can be found that the theme of 'strategic management' was frequently addressed in most of these papers. Sehgal, Sahay and Goyal (2006) (R15, A1) detailed the efforts of a paint company to re-engineer the SC as part of its strategic initiatives, while Borade and Bansod (2010) (R21, A1) studied about the popularity of vendor-managed inventory practices in Indian industries. This category included articles on diverse issues, for instance, SCM practices, competitiveness, SC strategy, SC implementation, improvement, performance measurement, etc. These papers were classified under this category based on factors such as type of decisions addressed, profile of respondents to the survey questionnaires, time taken for implementation, etc.

The category called 'Collaboration management' includes issues of SCC, inter-organizational systems, etc. (see (R16, A1), (R18, A1), (R56, A1), (R70, A1)), while the 'Information technology' deals with issues related to Information and Communication Technologies (ICT) implementation and its implication ((R12, A1), (R33, A1), (R58, A1)). However, in both these cases, only 3 out of 70 papers have addressed such issues, which are very less in comparison to the period of study, which is about 15 years. The category of 'integration' addressed various issues related to coordination in SC, bullwhip effect, etc., and while 'logistics' dealt with problems in reverse logistics, retail logistics practices, quality of service, etc., Among these, number of papers under the category of 'logistics' is

comparatively greater than that of 'integration'. But as a whole, they are still considered to be trivial in number with respect to the total number of journals considered and the period of review. Thus, it is very much evident from Table 8 that manufacturing management, integration and collaboration management need to be addressed more in future work.

Another unique observation is that the Indian contributors are more interested in addressing the issues on the upstream side—that is, supplier's side (contributing to about 13 per cent of the papers reviewed) than the downstream side. If we consider the logistics as the area of research, then it would fall under both the upstream and downstream end and hence, one cannot directly conclude that research related to logistics are happening at downstream end only. Other areas, for example, SCM in SME, green supply chain, agile supply chain, sustainable supply chain management, etc., which are grouped under 'comprehensive construct', revealed that adequate importance is not given to these aspects. Each of these issues was hardly addressed by merely two or three papers in the whole of 15 years. This shows that there exists a significant potential for the researchers to study about these issues within the Indian context.

Research-based Classification

1. **Research outlets:** From Table 9, it is evident that most of the journals are either from operations management (OM) or from SCM. Among the 70 articles considered for the review, 32 articles were published in Journals under this category. It is quite natural that authors would like to publish issues related to SC and SCM in relevant/related journals. Approximately 15 per cent of the articles surveyed got published in some journals that were not exactly related to OM/SCM but in journals related to specialized areas, for instance, economics, food, information technology, etc. This is primarily due to the fact that the contributors would have considered the theme of the article to be more related to other fields rather than having a direct relevance to SCM. This shows that the level of 'inter-disciplinary' research is still less among the Indian contributors.
2. **Year:** On the basis of Figure 1, it can be found that there is an increase in the number of articles over the years. However, another observation is that the trend is neither linear nor exponential and hence, it can be inferred that this growth may not be only due to the

increase in number of publications every year. The sudden spurt in the number of papers from the year 2006 can be related to the 'increased focus on India' by the global business houses as a potential market for growth. Moreover, during these last 5 years, the Government of India too have been liberal in terms of bringing out various changes and introducing new economic policies in Foreign Institutional Investment (FII), Foreign Direct Investment (FDI), easing out certain rules and regulations, etc., thereby helping the multi-national companies to set-up shops in India. Naturally, this would have prompted the practitioners as well as the academicians to forcefully study the issues in Indian SC to make the Indian companies remain competitive. Also, it is in the last few decades that the potential of Indian manufacturing companies have been recognized by the Western companies after they gained reputation for quality by winning various awards and recognitions such as Deming's Prize, ISO 9000 certifications, etc., Hence, there is an increased business between the Indian companies—especially in the automobile and auto component sector to have tie-ups with many world leading industrial conglomerates such as Toyota, General Motors, etc., which too would have resulted in increased contributions in the SCM literature. Therefore, the increase in the number of research papers seems to be a reflection of these critical factors. These factors did not seem to be significant in the earlier periods, from 1998 to 2005, as the maximum number of papers published is less than four. It should also be noted that no publications could be found in the year 2002 among the reviewed articles. This might be due to the fact that the search terms and limiting boundaries would have missed some of the articles. Also, it must be noted here that we have not considered all possible publications such as Inderscience as the access to their collections are highly restricted. Even, it is not available within any of the related Indian universities or university consortiums.

3. **Qualitative/quantitative/triangular data:** As evident from Table 10, it can be found that most of the researchers prefer using quantitative techniques. More than 50 per cent of the reviewed papers involved quantitative techniques, while the remaining 28 papers used qualitative techniques. It is interesting to note that qualitative methods are also preferred by the Indian researchers. Although the management research is highly biased towards the quantitative research in general, it is surprising to find that qualitative-based research has also got adequate importance in the Indian context.

4. **Research design:** This categorization deals with the different types of research methods that are used by the Indian contributors in carrying out their research.
 - a. **Methodologies used:** Table 11 shows that about 76 per cent of the reviewed papers utilized empirical research, while the remaining papers contributed to the desk-based research. It is natural to see such importance to empirical research because the research hypotheses for various SC issues require collecting data from multiple entities of the SC at different stages to substantiate the claims and validate them. On the other hand, if the study is carried out with respect to a single entity, using either a mathematical technique or explaining a unique situation or best practices in a case company, then desk-based research could have been employed.
 - b. **Research design:** Various analysis techniques were used in the reviewed papers. Some techniques were used more than others. For instance, articles by Vijayvargiya and Dey (2010) (R20, A1), Kannan *et al.* (2009), (R48, A1) etc., used an analytical approach in the form of MCDM models, whose usage is highly prevalent among the Indian researchers. It was also found that more than one technique was used in a single paper. For an example, papers such as Khan and Pillania (2008) (R19, A1) used a combination of statistical techniques to understand the impact of strategic sourcing in improving the agility of the SC using a survey of multiple organizations. Generally, survey is considered to be the most commonly used research design in SCM or management research. However, in this case, the data shows that case study still remains the most preferred choice of researchers from India. But a close analysis of the papers dealing with case studies revealed that usage of this method to deal at the network level is sparsely reported. Since case studies can include multiple organizations, it is surprising to note that this methodology is not being used to identify the SCM issues in them. However, the usage of survey methods cannot be ignored as significant number of papers has also utilized this methodology. Another interesting observation is that the contributions in the form of framework or concepts are very less from the Indian scenario. Not much of unique theories or concepts, for example, bullwhip effect, cross docking, etc., are proposed from the perspective of Indian businesses.
5. **Industry:** The result obtained from Table 13 revealed that SC issues of diverse spectrum

industries are addressed within the Indian business context. However, as expected, most of the SC issues are studied with respect to the automobile industry. About 20 per cent of the paper dealt with automotive sector. This is in line with the worldwide phenomenon, where most of the OM/SCM concepts are studied and implemented in automotive industries, as these industries play a major role in the economy of any country. Since these industries are highly capital intensive and competition rich, many researchers attempted to address and understand the various issues to overcome the hurdles. It is also heartening to see that SC issues of other sectors such as agriculture, SMEs and perishable food industries are also studied albeit the number of such studies is less than 10 per cent of the total studies reviewed. Similarly, this also reveals that such sectors of industries are not given adequate importance in the last 15 years, as the number of publications per year is minuscule. On a positive note, this shows that these industrial segments have high potential to be researched for various SC issues. Another unique observation is that India as a country is becoming more famous for its Information Technology (IT) and IT-enabled Service (ITES) business. However, with the information playing a key role in the SCM, not many papers focused on the utilization of such IT services for addressing SCM problems within India are available. Similarly, very few case studies are available from the IT sector that address the solutions for SCM problems.

Directions for Future Research

On the basis of this review, some directions for future research are also suggested, which are as follows:

1. As evident from Tables 4 and 5, it is clear that not much importance is given to understanding the interface between two or multiple stages/nodes of SC. Similarly, future research efforts should be directed towards understanding the downstream side of SC and in particular the interface between distributors and retailers, manufacturers and distributors, etc. Focus on understanding the transactions between these stakeholders apart from understanding the relationship mechanism between them (especially on the downstream side of the SC) is the missing link within Indian context. Similarly, more studies should be directed towards understanding the role of 'knowledge', 'asset', 'technology', etc., as an element of exchange within the SC. With recent developments, for example, horizontal

collaboration/vertical collaboration, co-opetition, etc., the mechanisms and methods behind these practices between different stages and nodes of SC should be researched.

2. Another observation is that the number of papers addressing issues of Information Technology (IT) within the SCM is comparatively lesser when it is claimed that India's buoyant growth in recent years is due to IT and IT-enabled Service (ITES) sectors. Indian businesses should attempt to exploit the potential of Indian IT and ITES firms in supporting their crucial business functions such as SCM and hence the future research should also be directed to address this issue.
3. Indian researchers have not yet tapped the valuable information lying in other industries such as IT, agriculture, food industries, etc. Hence, research focusing on such segment should be addressed in the future, as these industries in developing countries play a crucial role in shaping up the economy.
4. Although some of the studies such as Kannan *et al.* (2009) (R48, A1), Diabat and Govindan (2011) (R47, A1), Gupta and Palsule-Desai (2011) (R54, A1) have addressed the issue of sustainability in the SC, still significant number of studies have to be carried out to make this planet a better place to live. India and China, with their huge population and consumerism, would lead to various environmental issues due to transportation, dumping of used products as waste, obsolescence, etc., Naturally, SCM as a business function of the organizations in these countries would play an increasingly crucial role to prevent and reduce environment impact. Hence, studies focusing on sustainability should be the need of the hour and it offers significant challenges for both the academia and industry.

Conclusions

This article made an earnest attempt to provide a review of literature on SCM, which are specifically related to Indian business context. Multiple taxonomies are established to understand the contributions and efforts of the academia, researchers and practitioners and unique results and inference were made, which were detailed in the previous section. It can be concluded that with the increase in number of papers in recent years, it can be predicted that India will get more attention in the future and naturally the number of articles addressing SC issues from the Indian perspective would also increase as the field of SCM is also evolving

very fast with the changes in technology, economy and the business paradigms as a whole.

One of the limitations of the existing study is that all the papers relating to this theme in the given time frame considered may not have been reviewed. This can be attributed to our selection criteria which are constrained by the limiting boundaries established as part of the systematic review process adopted. Especially, those research works that are published by Inderscience publishers, manuscripts under Open Source collections, papers published in renowned conferences and other Indian journals are not included in the present study. Furthermore, this review can be compared and contrasted with similar reviews done for other countries to trace how SCM has been evolving in India. Nevertheless, it is believed that this review would have provided an introductory picture towards this important research issue and our future research might delve further into this area to resolve the missing link identified in the research gap.

Appendix I

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