

The role of knowledge sharing in supply chain success

Literature review, classification and current trends

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Abstract

Purpose – The aim of this paper is to provide a comprehensive and detailed review of the state-of-the-art mechanisms of knowledge sharing (KS) in the supply chain (SC) field, as well as directions for future research. Briefly, this paper tries to offer a systematic and methodical review of the KS mechanisms in the SC to provide a comparative summary of the selected articles, to collect and describe the factors that have the influence on KS and SC, to explore some main challenges in this field and to present the guidelines to face the existing challenges and outlining the key areas where the KS mechanisms in SC can be improved.

Design/methodology/approach – In the current study, a systematic literature review up to 2018 is presented on the supply chain's mechanisms of KS. The authors identified 21,907 papers, which are reduced to 25 primary studies through the paper-selection process.

Findings – The results showed that the KS in SC helps to increase the success of the organizations, improve employee performance, increase competitive advantage, enhance innovation and improve relationships between supplier and consumer. However, there were some weaknesses, such as staff resistance to share knowledge in the SC because of fear of job loss.

Research limitations/implications – There are several limitations to this study. This study limited the search to Google Scholar. There might be other academic journals where Google does not find their paper and they can offer a more complete picture of the related articles. Finally, non-English publications were omitted from this study. It is possible that the research about the application of KS in SC can also be published in other languages. In addition, more studies need to be carried out using other methodologies such as interviews.

Originality/value – The paper presents a comprehensive structured literature review of the articles' mechanisms of KS in SC. The paper's findings can offer insights into future research needs. By providing



comparative information and analyzing the current developments in this area, this paper will directly support academics and practicing professionals for better knowing the progress in KS mechanisms.

Keywords Supply chain, Knowledge management, Knowledge sharing, Systematic literature review

Paper type Literature review

1. Introduction

Researchers have recently concluded that effective organizations are those who can create and distribute the knowledge rapidly and can use the created knowledge for designing new products for consumers (Liu *et al.*, 2017; Madan, 2015; Nonaka, 2008). Knowledge is regarded as a key component for organizational innovation and it is a vital asset for enabling the organizations to gain a competitive advantage (López-Nicolás and Meroño-Cerdán, 2011; Marra *et al.*, 2016). Improving the techniques for how the knowledge can be captured and shared among the entities of companies is gained much attention (Gao and Bernard, 2018; Movahedipour *et al.*, 2018). Knowledge sharing (KS) is considered as a key aspect for organizations to get a competitive gain (Al-Hawamdeh, 2003; Navimipour and Charband, 2016). KS is about the providing of know-how to help others and to cooperate with them to solve problems, improve new thoughts, or implement strategies and actions (Ahmed *et al.*, 2018; Olson, 2015; Wang and Noe, 2010).

On the other hand, firms attempt to realize more supply chain (SC) collaborative innovation to enhance the knowledge of their partners (Ulhaq *et al.*, 2017; Wang and Hu, 2016). In SC systems, used products might re-enter to the SC process at anywhere (Nagurney, 2006; Taher *et al.*, 2016). In such a complicated system, the acceptance, making, storage, transmission, sharing and application of knowledge management (KM) is the preferred response to the new challenges of the SC (Cerchione and Esposito, 2016; Lim *et al.*, 2017). A relational risk is negatively associated with a desire for sharing of knowledge between partners, which causes a negative effect on KS (Cheng, 2011; Todo *et al.*, 2016). The relationship and institutional orientation play a vital role in ensuring the inter-organizational KS (Cheng and Fu, 2013; Kumar and Rajan, 2019).

However, despite the effect of the KS on the success of SC, as far as we know, the comprehensive and systematic study about the role of KS mechanisms in SC is very rare. Thus, the purpose of this paper is to examine the role of KS mechanisms in SC and to define the types of important challenges. Besides, we suggest some directions for future studies. Briefly, the objectives of the paper are:

- offering the systematic and methodical review of the KS mechanisms in the SC;
- offering a comparative summary of the selected articles;
- collecting and describing the factors that have the influence in KS and SC;
- exploring some main challenges in this field and presenting the guidelines to face the existing challenges; and
- outlining the key areas where the KS mechanisms in SC can be improved.

The related work is summarized in the next section. Section 3 introduces the backgrounds. Section 4 discusses the paper selection process. In Section 5, the reviewing of selected papers is presented. Results and comparison are discussed in Section 6. In Section 7, open issues are discussed. Also, we will conclude the paper in the last section. Finally, the commonly used abbreviations are shown in [Appendix](#).

2. Related work

Some review papers about KS and SC are discussed in this section to highlight our motivation for writing this paper.

[Tolooie and Soleimanyanadegany \(2011\)](#) have reviewed the role of KM in SC Management (SCM). In addition, they have planned a model linking knowledge development to cycle time in strategic SC. So, the ability to create, acquire, mix and deploy distributed knowledge has emerged as a vital organizational ability. The paper recognizes that there is hardly any prove available on the collaboration enhancing between company's outcome and IT strategies. The essay discusses building theories and empiric way of investigation. The disadvantages of this article are:

- The article selection method is not clear in the articles.
- There is not any logical classification of the papers.
- The articles are not compared comprehensively.
- Their organization does not have systematic validation.
- Advantages and disadvantages of the articles have not been discussed.

[Marra et al. \(2012\)](#) have investigated the role of KM in SCM by studying the available literature. This review recognizes various theoretical and methodological features in which KM applications are applied in the SC context. The review shows that there is little indication of the positive relationship between IT usage and firms' performance. They have reviewed relevant articles from 2000 to 2010. However, the collection of articles has not been done systematically. There is also no classification and comparison of articles. The disadvantages of this article are:

- There is not any logical classification of the papers.
- The comparing among articles are not provided.
- The focus of the paper is only on SCM.
- There is a limitation on the collection of relevant articles.

Also, [Shenghua \(2013\)](#) has examined the review of researches on influencing factors of KS based on SC. He has summarized the results of research on influencing factors of inter-organizational KS from the perspective of SC. He also reviewed the viewpoints in the research on influencing factors of KS in the SC from 4 aspects, that is sharing subject, sharing an object, sharing a channel, and sharing context. Finally, he has summed up the current researches and points out some localized research directions. However, the disadvantages of this article are:

- The paper is written in a non-systematically way.
- The paper selection process is unclear.
- The discussed articles have not been classified and compared.

[Outahar et al. \(2013\)](#) have reviewed and analyzed existing contributions in implementing KM in SC. The paper summarized several theoretical and methodological characteristics that have been developed recently to highlight the way in which KM applications are proposed in the SC context. In particular, the paper focuses on three areas of research: Knowledge transfer, KS and knowledge creation, and learning. The combined KM and SC literature reviewed allow recognizing that many of the KM concepts are pertinent to SCM. Consequently, more and more companies are starting to realize and subsequently reap the benefits of KM adoption and implementation within their SC. The disadvantages of this article are:

- The selection process of articles is vague.
- The comparing among articles is not provided.
- Newly published articles have not been discussed.

Furthermore, [Rui and Wu-yi \(2015\)](#) have studied a detailed review on the researches of KS in SC from following aspects, competitive advantage, technical support, factors, sharing mechanism, products, evaluating indicator, and analyzed the deficiencies. They also have offered research paths for the future. The main result is that enterprises can gain a competitive advantage form KS in SC. The disadvantages of this article are:

- The articles selection process is not clear.
- The articles are not compared in details.
- The tabular comparisons of the reviewed papers are missed.

Furthermore, [Cerchione and Esposito \(2016\)](#) have provided a review of KM in SC to recognize the state-of-the-art literature to describe suitable research questions. The results have shown that though there are many papers addressing KM in SC, many research questions are still ignored. Particularly, the paper highlights eight main gaps in the SC literature. From these gaps, nine research questions have been described. However, the disadvantages of this article are:

- Advantages and disadvantages of the articles have not been discussed.
- The literature review is limited to the years 1960-2015.

[del Rosario Pérez-Salazar et al. \(2017\)](#) have surveyed the KM and SCM research via forming three standpoints, methodological approach, SCM area, and KM processes. The results have shown that KM can be viewed as a leverage mechanism for SC integration, SC approach alignment; the improvement of inter and intra-relations across the SC; and the reinforcement of knowledge transfer in product development. Also, they have shown that some SCM areas such as reverse logistics, inventory management, request planning, outsourcing, and risk assessment are explored slightly. The drawbacks of this study are:

- Newly published articles have not been discussed.
- The comparing among articles is not provided.
- There is not any logical classification of the papers.

Based on the discussed articles in this section, we found that different topics in this domain are the factors of inter-organizational KS from the perspective of SC, the competitive advantage, technical support, factors, sharing mechanism, products, evaluating indicator, and the deficiencies, SC approach alignment. Some review research has been done in the domain of KS and SC. However, there have been few reviews on this topic, also, KS benefits in SC have not been discussed well. While systematic reviews are very important for performing a sound review ([Ghanbari et al., 2019](#); [Shabestari et al., 2019](#)), these surveys did not present a complete Systematic Literature Review (SLR)-based review of the KS application in the SC with an analysis of their taxonomy and future challenges. [Table I](#) provides a brief summary of the reviewed surveys and their main properties. As shown in [Table I](#), the most weakness in the examined articles is lacking the articles selection process. In addition, many articles are not provided the logical classification. In addition to the aforementioned, articles comparison, and their analysis in detail are the other important weaknesses. Therefore,

Table I.
Comparison of
discussed articles
about KS systems on
SC success

Article	Main idea	Advantage	Weaknesses
Tolboie and Soleimanyanadegany (2011)	Examining the review on the role of KM in SCM	Providing a model linking knowledge development in strategic SC Discussing the ability to create, obtain, integrate, and organize distributed knowledge	The article selection method is not clear in the articles There is not any logical classification of the papers The articles are not compared to comprehensively Their organization does not have systematic validation Advantages and disadvantages of the articles have not been discussed
Marra et al. (2012)	Investigating the role of KM in SCM	The review recognizes various theoretical and methodological features in which KM applications are applied in the SC context	There is not any logical classification of the papers The comparing among articles is not provided The focus of the paper is only on SCM There is a limitation on the collection of relevant articles The paper is not a systematic survey The paper selection process is unclear The discussed articles have not been classified and compared
Shenghua (2013)	Examining the review of researches on influencing factors of KS based on SC	Discussing the sharing subject, sharing an object, sharing a channel, and sharing context Grouping the factors of inter-organizational KS from the perspective of SC	The selection process of articles is vague The comparing among articles are not provided Newly published articles have not been discussed The articles selection process is not clear The articles are not compared in details The tabular comparisons of the reviewed papers are missed
Outahar et al. (2013)	Implementing KM in SC	Focusing on three areas: Knowledge transfer, KS and knowledge creation, and learning	Advantages and disadvantages of the articles have not been discussed The literature review is limited to the years 1960-2015
Rui and Wu-yi (2015)	The studying a detailed review of the researches of KS in SC	The paper analyzing the competitive advantage, technical support, factors, sharing mechanism, products, evaluating indicator, and the deficiencies The paper highlights eight main gaps in the SC literature	Newly published articles have not been discussed The comparing among articles is not provided There is not any logical classification of the papers
Cerchione and Esposito (2016)	Providing a review of KM in SC to identify the state-of-the-art literature	Showing that KM viewed as a leverage mechanism for SC integration SC approach alignment The improvement of inter and intra-relations across the SC The reinforcement of knowledge transfer in product development	
del Rosario Pérez-Salazar et al. (2017)	Grouping the KM and SCM research via forming three standpoints, methodological approach, SCM area, and KM processes		

in the rest of this paper, we try to solve the mentioned issues and provide an up-to-date analytical review paper in this domain.

3. Background

In this section, the articles related to the role KS in SC success have been divided into three major categories (strategic, operational and managerial benefits) according to [Figure 1](#).

3.1 Strategic benefits

Over the past decades, SCM has been a vital and strategic mechanism for organizations to reach a good competitive advantage. There have been many changes in SC activities since the 1960s, most of which are about technological development ([Ardito et al., 2018](#); [Chou et al., 2004](#)). An important issue in the SC strategy is that an organization cannot compete singly and succeed in today's market. Hence, many organizations try to coordinate inter-organizational activities with each other to achieve individual and collective performance ([Matopoulos et al., 2007](#)). For this purpose, knowledge, and information sharing through collaborative, activates facilitates market access, reinforces competitive position, increases market share and improves the worth of the company ([Clemons and Slotnick, 2016](#); [L. Li, 2012](#)). Also, collaboration can increase the value-add of a company by reducing the time it takes to market the product, reducing its distribution time, and improving its quality ([Matopoulos et al., 2007](#); [Rodríguez-Enriquez et al., 2016](#)).

3.2 Managerial benefits

Managerial benefits rise from planning problems that are related to the medium term ([Huang et al., 2003](#)). Production planning, which involves improving product quality, minimizing supply discontinuity, is one of the key points in a management plan. Correct planning in distribution (faster delivery, increased flexibility in delivery) can lead to more profit ([Matopoulos et al., 2007](#); [Ryoo and Kim, 2015](#)). Managers are trying to use SC processes to improve performance. They should focus on recognizing the current and future SC needs of customers and then makes an effective process to meet those requirements ([Khodaei et al., 2018](#); [Stank et al., 2001](#)). Communication strategies were recommended as a competitive key in SCM. Communication between buyers and sellers is a key advantage to the SCM ([Ellinger et al., 1999](#)). The flow of information through collaborative networks enables firms to lessen information delay ([Angerhofer and Angelides, 2006](#); [Perçin, 2008](#)). So, to implement an efficient SCM, the businesses must found management practices governing their consistent performances and/or behaviors ([Nasr et al., 2015](#); [Vann, 2016](#)).

3.3 Operational benefits

In general, operational benefits are related to daily events in an SC. Inventory, delivery time, cost, information, and planning are important for gaining operational benefits. Many organizations try to integrate the numerous elements of their SC for enhancing efficiency ([Kannabiran and Sundar, 2011](#)). Past research showed that manufacturers could enhance SC agility, decrease cycle time, reach higher efficiency, and deliver products in a timely way.

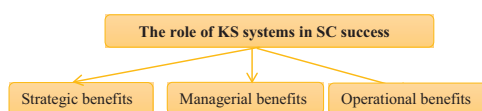


Figure 1.
Categorization of the role of KS systems in the SC success

Consequently, organizations invest heavily in Information Technology (IT) to gain a competitive advantage in today's highly dynamic business market (Kim and Kim, 2009). Also, increasing revenue and reducing costs is one of the things that help to strengthen the financial strength of the colleagues (National Research Council, 2000; Simchi-Levi *et al.*, 2004).

4. Methodology

As the article reviewing via SLR is impartial, replicable, fair, systematic, complete, and clear, it can be considered as the first choice of articles reviewing methodology (Charband and Navimipour, 2016; Weed, 2005). Also, SLR in management can provide transparency clarity, accessibility, and fair comprehensive coverage on a specific managing area (Navimipour and Charband, 2016; Pittaway *et al.*, 2005). Victor (2008) has defined SLR as a concept of identifying, assessing, and interpreting all available researches related to a specific research query or topic area (Ali *et al.*, 2018; Charband and Navimipour, 2018). The approach of the current review involved extensive searches of relevant databases to identify all literature on KS and its role on SC success.

4.1 Question formalization

The current research aims at categorizing and examining all related studies that have examined the role of KS systems in the SC success. Another goal of this study is better understanding of the main issues in the field of SCM. The aims of this study are responding to the following questions:

- Q1. What is the worth of KS systems in SC?
- Q2. How is the searching for the article to understand the role of KS systems in the SC success?
- Q3. What are the important components of KS systems that affect SC success?
- Q4. What are the benefits and drawbacks of KS systems in SC?
- Q5. What are the challenges and open issues of KS systems in SC?

4.2 Article-selection process

The article selection can be fulfilled in three steps. In step 1, Google Scholar, Emerald, Science Direct and ABI/Inform Global ProQuest are used as a key search engine to discover relevant articles based on some keywords including (knowledge sharing supply chain) or (supply chain) and (knowledge management supply chain). So, using automatically search process, 21528 articles are found from the journals, conferences, and books. Figure 2 shows the classification of the articles in each publisher. Finally, Figure 3 shows the distribution of the articles over time and Journals. In 2018, the published articles are highest.

Step 2 sets some criteria to assure those worthy publications are involved in the review. The editorial notes, working papers, review articles, reports and non-English papers are excluded. Finally, 989 articles are considered for detailed analysis. The published papers by famous publishers such as IEEE, Elsevier, Springer, Sage, Emerald, Taylor, ACM, Wiley and IGI are selected based on their title (Saber, 2009). Also, citations of the paper are considered in this stage (Saber and Ekhtiyari, 2019; Saber *et al.*, 2011).

In Step 3, to verify the relevance of the article, they are reviewed in detail. The subject, publication year, and rank of the journal are the key issues to decide the including or excluding of the articles. After applying these filters, the related articles are selected which

are published by nine famous publishers. So, 964 articles are excluded. Finally, 25 articles have remained which are certainly about the role KS systems in SC success, explained the proposed technique evidently and clearly, and improved some of the related parameters.

An overview of the used process for articles selection is illustrated in Figure 4. Also, the number of articles in each group shows in Figure 5. A summary of the applied process to classify the articles is illustrated in Table II. The searching process resulted in identifying 25 relevant articles for analysis (The 18 articles analyses in Section 5 and 7 articles analyses in section 2.). Also, Table III shows the classified papers.

5. Review of knowledge-sharing mechanisms in supply chain

The philosophy of SCM lies in the fact that the total performance of SC increases when the performance of each of the organizations is optimized. On the other hand, information is also considered as a determinant factor in increasing the productivity of complex organizations, which summarizes the ability of today’s organizations to process information and improve their speed in sharing and deciding (Breen and Crawford, 2005). In general, in an SC, the

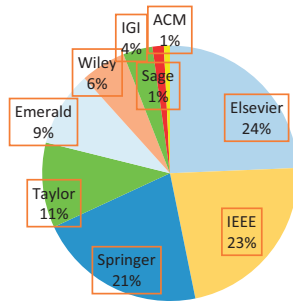


Figure 2. Percentage of published articles based on database sources

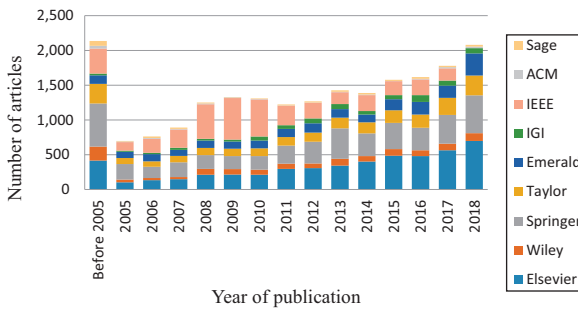


Figure 3. Distribution of articles by database sources and Journals

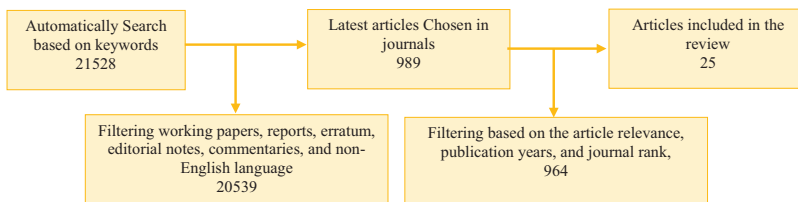


Figure 4. An overview of the used process to identify the articles

performance or responsiveness of businesses related to the amount of shared information by companies. The greater the amount of shared information associated with product supply, customer demand, market forecasts, and production scheduling causes the responsiveness abilities of these companies (Bagal *et al.*, 2018; Slone *et al.*, 2007). Hence, in this section, we have divided the important factors of KS in the SC into three segments strategic, operational, and managerial benefits, and we have collected their key points.

5.1 Strategic benefits

Cheng (2011) has developed a conceptual model in which relational risk as a mediating construct to assess the interrelationship effects. Structural equation modeling (SEM) with Linear Structural Relations (LISREL) was analyzed the hypothesized relationships of the model. The results have shown that institutional orientation plays a serious role in confirming the inter-organizational KS. In addition, a relational benefit between green SC members improves the willingness of partners to develop their relationships to enhance KS. Inter-organizational KS is increasingly popular to managers because business relationships are improved to realize corporate goals (Im and Rai, 2008; Liu *et al.*, 2012). However, it did not generalize to all forms of SC, as these findings only reflect the setting of Taiwan’s SC. Quantitative benefits of improving the SC performance are in many terms such as delivery performance, inventory reduction, fulfillment cycle time, forecast accuracy, productivity, lower SC costs, and fill rates.

Ajmal and Kristianto (2012) have examined KS in SC by developing analytical models to minimize KS uncertainty. Analogies from thermodynamics are used to describe the phenomenon in SC KS. The study funded that distance and sender capacity is important to reduce KS uncertainty. Furthermore, higher contact frequency between the sender and the receiver without considering sender capacity is proven to be

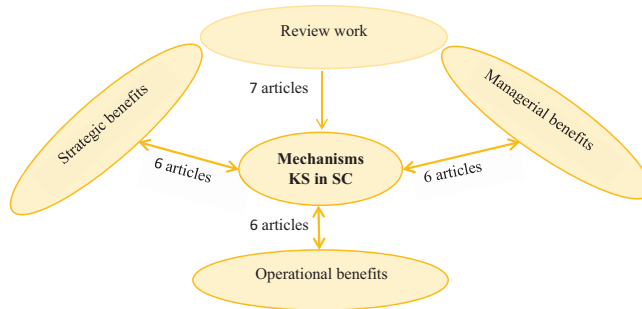


Figure 5.
The number of articles in each group

Stage	The role of KS systems in SC success			
S 1	21,528 articles			
S 2	Journals 13,165 articles	Conferences 8,542 articles	Books 179 articles	
S 3	25 articles			
Details of selected articles in each stage	Until 2013 11 articles	2014-2015 3 articles	2016-2017 7 articles	2018 4 articles

Table II.
Details of selected articles in each stage

Group	Year	Author	Publisher	Journal/Conference names
Strategic benefits	2011	(Cheng)	Elsevier	Transportation Research Part E: Logistics and Transportation Review
	2012	(Ajmal and Kristianto)	IGI	Decision Making Theories and Practices from Analysis to Strategy
	2015	(L. Liu, Chen, and Niu)	JIEM	<i>Journal of Industrial Engineering and Management</i>
	2017	(Chuaynugul)	AJMI	<i>AJMI-ASEAN Journal of Management and Innovation</i>
	2017 2018	(C. Wang and Hu) (Q. Wang and Qiao)	Elsevier IEEE	Technovation Paper presented at the 2018 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)
Managerial benefits	2010	(C.-M. Huang, Su, and Chen)	Taylor and Francis	<i>Journal of Statistics and Management Systems</i>
	2012	(Cervellon and Wernerfelt)	Emerald	<i>Journal of Fashion Marketing and Management: An International Journal</i>
	2013	(Cheng and Fu)	Elsevier	<i>International Journal of Information Management</i>
	2017	(Lin)	Emerald	<i>The International Journal of Logistics Management</i>
	2018	(Haque and Islam)	Emerald	<i>Journal of Global Operations and Strategic Sourcing</i>
	2018	(M. Gao and Ji)	IEEE	2018 Chinese Control And Decision Conference (CCDC)
Operational benefits	2010	(Rashed, Azeem, and Halim)	JOSCM	<i>Journal of Operations and Supply Chain Management</i>
	2012	(Shih, Hsu, Zhu, and Balasubramanian)	Elsevier	<i>Information and Management</i>
	2014	(Singh and Power)	Taylor and Francis	<i>International Journal of Production Research</i>
	2016	(Tuan)	Taylor and Francis	<i>International Journal of Logistics Research and Applications</i>
	2017	(Y. Li, Wu, Zong, and Li)	Emerald	<i>International Journal of Operations and Production Management</i>
	2018	(S.B. Grant and Preston)	Elsevier	<i>Information and Management</i>

Table III.
Classification of selected papers in three main categories

insignificant to reduce uncertainty. The mechanism provides a new approach to explicate KS in supply networks. It also serves as a deep-rooted opening point for supplementary empirical assessment. The mechanism facilitates managers to expand their understanding of composite circumstances embedded into global supply networks to share their knowledge. With enhanced understanding, managers can spotlight their actions, increasing their firms' competitiveness. This study provides a deeper theoretical understanding of KS in supply networks with a practical approach. However, the focus of the study is limited to one.

Liu *et al.* (2015) have analyzed the mechanism of KS between enterprises in SC collaborative innovation. Their paper analyzes the SC members' willingness to KS based on game theory. Moreover, the result of KS between two companies is analyzed by employing the evolutionary game. They have broken the KS process in SC collaborative innovation into knowledge mining and transferring. In addition, the best KS strategy of each SC member

has been gotten. The results can help to advance the effect of KS in SC collaborative innovation. Their study has some limitations. They did not investigate the willingness of more than two SC members to KS.

The interaction among collaborative innovation capability, collaborative innovation activities, KS, and innovation performance in SC networks have been examined in [Wang and Hu \(2017\)](#). The 236 firms in China were investigated and the results have shown the positive relationships between KS, collaborative innovation activities, collaborative innovation ability, and innovation performance of a firm. Furthermore, it is expected that KS can play a fractional mediating role in the relationships between collaborative innovation activities and the firm's innovation performance. However, the low sample size limited the obtained results.

[Chuaynugul \(2017\)](#) has examined how collaboration among SC firms mediates the relationship between inter-organizational trust and KS intention. The data was collected by a simple random sampling technique of 50 multinational organizations in Thailand and the USA. By using PLS regression analysis, the result showed that there was a positive relationship between inter-organizational trust and KS intention. The analysis also found that collaboration was the real mediator between inter-organizational trust and explicit KS intention. There are some limitations in conducting this research. Firstly, time limitation, all data was collected under cross-sectional designed, so the researcher conducted at one point in time. This may cause a high variance in the result. Secondly, the number of respondents is quite low (N = 50). Therefore, variances may happen and may link to wrong result interpretation. A final limitation is that their sample may not represent all global SC behaviors. At the result, there may cause some error by different cultures and geographic location. Moreover, the sample size should represent to entire SC population along with the globe.

[Wang and Qiao \(2018\)](#) have analyzed the effect of hitchhiking behavior in the process of KS in SC. Based on the evolutionary game theory, the basic game model of KS and the game model of incentive mechanism are recognized. The results have shown that the introduction of an incentive mechanism increases the probability of KS among enterprises in SC. In addition, the behavior of KS in SC is affected by other factors besides economic factors. In addition, this paper only considers the cost of KS and risk loss in economic factors.

[Table IV](#) provides an overview of the most important advantages and disadvantages of the KS strategic benefits mechanisms in SC. According to the reviewed studies in this section, the following benefits have been seen:

- facilitating SC collaboration;
- increasing market share;
- promoting value-added products;
- providing quick access to markets;
- increasing technological power;
- facilitating new product design development; and
- increasing speed to access knowledge.

5.2 Managerial benefits

[Huang et al. \(2010\)](#) have highlighted the importance of knowledge creation and sharing for SC practice. They have adopted 601 samples from top manufacturing firms based in 24 countries and performed SEM to test the hypotheses. They have examined the influence of alignment among knowledge creation and sharing, SC practices and competitive performance.

Table IV.
Side-by-side summarization and comparison of the most important advantages and disadvantages of the KS strategic benefits mechanisms in SC

Paper	Main idea	Advantages	Limitation
Cheng (2011)	Providing a model for evaluating a relational risk as a mediating construct	Enhancing the inter-organizational KS Providing the competitive advantage of green SC	The findings reflect the setting of Taiwan's SC only
Ajmal and Kristianto (2012)	Providing a new approach to explicate KS in supply networks	Minimizing KS uncertainty Increasing firms' competitiveness	The focus of the study is limited to one area
Liu <i>et al.</i> (2015)	Examining the game analysis of the KS mechanism for the SC collaborative innovation	Improving competitiveness High innovation Helping KS in organizations	Sample size limit
Wang and Hu (2017)	Evaluating the effects of collaborative innovation capability on innovation performance	High innovation performance in SC networks High-speed service High the speed of new products	Low sample size The lack of communication between innovation and KS
Chuaynugul (2017)	Evaluating the collaboration among business SC firms on inter-organizational trust and KS intention	Useful results for SC multinational companies	Time limitation Low sample size The sample may not represent all global SC behaviors
Wang and Qiao (2018)	Studying the incentive mechanism of KS in SC	Improving the probability of KS between enterprises in the SC	Only considering the cost of KS and risk loss in economic factors

The results have indicated that manufacturers could perform very competitively when valuable knowledge has been created and shared and in turn can further influence and improve their SC practices. Through the influence of knowledge creation and sharing, effective SC practice can drive high performance. Using test results, they can prove that knowledge plays a key role in successful SC practices.

Cervellon and Wernerfelt (2012) have examined the knowledge content and the expectations regarding sustainable SC which is held by consumers. The results have indicated a change in knowledge content between two periods (2007-2008 and 2010-2011). The paper proposes an original viewpoint on the green fashion of SC and consumer vision of the industry, through the point of view of online communities. However, the use of information through electronic media by anonymous participants brings attendant problems such as limited information on participants' profiles. In addition, the paper suffers from the qualitative nature of the research.

Also, Cheng and Fu (2013) have developed a conceptual model for examining the interrelationship effects on KS. The results have suggested that the relationship orientation and institutional orientation play a critical role in ensuring the inter-organizational KS. The study improves a conceptual model that relational risk as a mediating variable examines the inter-relationship effects on the KS. They have analyzed the gathered data from 312 of the top 1,000 Taiwanese firms. The finding provided practical visions into how SC members should strengthen their relational and institutional view of relational governance and manage relational risks to develop collaborative behaviors. The research also provides multiple insights for managers and practices that look for inter-organizational knowledge improving in SC. However, findings could not generalize to all forms of SC.

Furthermore, [Lin \(2017\)](#) has revealed IT deployment capability, operational capability, human resource capability, and KS as the key antecedents of Electronic SCM (e-SCM) diffusion among Taiwanese firms, where higher levels of e-SCM diffusion cause higher competitive performance. Survey data from 142 managers of large Taiwanese firms were collected and used to evaluate the hypotheses employing hierarchical moderated regression analysis. The obtained results have shown that IT deployment capability, human resource capability, operational capability, and KS are significant antecedents of e-SCM diffusion. In turn, higher levels of e-SCM diffusion cause greater competitive performance. This study also finds that KS plays a moderating role by establishing the relationship between organizational capabilities and e-SCM diffusion. From the managerial viewpoint, the findings of this paper deliver decision guides for practitioners for improving the firm internal capabilities.

[Gao and Ji \(2018\)](#) have assessed the effect of relationship commitment on KS from SC enterprises. It also explored the mediating role of trust and reciprocity responsibility. They have used structural equation modeling based on 168 questionnaires from SC enterprises. The research results showed that the committed relationship of SC partners has a positive effect on KS, and can influence the KS behaviors of SC through reciprocity responsibility. The above conclusion leads enterprises to improve the KS among SC partners in the following two aspects. Their research has the following limitations. Firstly, there are some limitations in the sample size, and future research can expand the sample capacity to carry out more research that is extensive. Secondly, there is no empirical evidence for the hypothesis that this paper has not been verified and future research can redesign the measurement scale to solve the problem. Finally, the service-oriented SC has become the development trend, and the empirical studies or case studies can be used to confirm the application of the conclusions of this paper in KS of service-oriented SC.

[Haque and Islam \(2018\)](#) have investigated the relationships regarding the SC collaboration practices and KS with organizational performance in the pharmaceutical industry of a developing country. Structural equation modeling and factor analysis were applied to assess the research hypotheses. The findings have shown that both KS and collaboration practices in the SC effect customer satisfaction leading to business competitiveness as evidenced in the superior product quality and new product innovation. The findings of the paper have also shown the important practical implications because of the fact that the aspect of KS exerts an effect on customer satisfaction that holds the key to competing priorities. However, the study is performed only in the pharmaceutical industry from the viewpoint of a developing country.

[Table V](#) shows side-by-side summarization and comparison of the most important advantages and disadvantages of the discussed mechanisms. According to the reviewed studies in this section, the following benefits have been seen:

- increasing communication;
- increasing capacity allocation decision;
- cooperating among the members of the SC;
- making a better decision on predicting, planning, and supply control; and
- mutual sharing of information among the members of the SC.

5.3 Operational benefits

[Rashed et al. \(2010\)](#) have focused on the combined consequence of information and KS on supplier's operational performance through supplier-buyer relationship. A conceptual

Table V.
Side-by-side summarization and comparison of the most important advantages and disadvantages of the KS managerial benefits mechanisms in SC

Paper	Main idea	Advantages	Limitation
Huang <i>et al.</i> (2010)	Highlighting the importance of knowledge creation and sharing for SC practice	High performance Creating a competitive advantage	The study has not been implemented in the cluster environment
Cervellon and Wernerfelt (2012)	Reviewing the KS among green fashion communities online lessons for the sustainable SC	Highlighting the power of spreading information within the community Sustaining the development of the industry	Limited information on participants' profiles
Cheng and Fu (2013)	Providing a model for the examine the interrelationship effects KS	Improving inter-organizational knowledge in SC Facilitating sustain competitive advantages	The results are not generalizable for all forms of SC
Lin (2017)	Developing a model that offers an understanding of the antecedents and consequences of e-SCM diffusion	High IT deployment capability High operational capability High human resource capability High competitive performance	The sample size is limited to only one country
Gao and Ji (2018)	Investigating the influence of relationship commitment on KS in SC	Improving the KS among SC partners High sense of trust	Limit in sample size The lack of empirical evidence
Haque and Islam (2018)	Investigating the impact of SC collaboration and KS on organizational outcomes in the pharmaceutical industry	High product quality High new product innovation High customer satisfaction	Limit in sample size

model was formulated based on previous literature. A questionnaire-based survey was performed. Data from 30 Bangladeshi Readymade Garments Industry were collected through interview and mail survey. Content validity, construct validity, and reliability is tested. Path analysis is performed for the identification of the validity of the model. The findings showed that information sharing is a prerequisite for KS and the close supplier-buyer relationship is a vital factor for escalating the supplier's operational performance. However, this model has not been evaluated in the real environment.

Shih *et al.* (2012) have investigated the role of KS in SC. The results provided in the form of scenario-building and scenario-based simulation. They have offered a real-world case study of KM practice. Results have suggested that a viable KS mechanism, when blended with suitable KM strategies, could help bridge the separated gaps or separated SC partners with conflicting aims. This approach improves the effectiveness and productivity of the entire SC. It decreases the cycle time for moving services from manufacturers to customers. However, the research investigates only one firm.

Singh and Power (2014) have developed a firm-level operational concept related to innovative KM practices. They have confirmed this proposition by empirically analyzing the relationship between KS practices within and between trading partners and investigating the effect of these practices on firm performance. Data were gathered from 418 organizations in the manufacturing industry in Australia to measure the degree to which innovative KS practices provide a competitive benefit. The results have shown that three innovative KS constructs are strongly interrelated. However, the results cannot generalize.

Furthermore, Tuan (2016) has investigated the relationships between SC agility and its dynamic precursors containing organizational ambidexterity and external KS. The research has examined the moderating role of competitive intelligence for the relationship between organizational ambidexterity and SC agility. The moderating role that competitive intelligence plays in the relationship between organizational ambidexterity and SC agility was also confirmed. The findings expanded the SC literature by establishing the positive effect of organizational ambidexterity on SC agility with competitive intelligence as a moderator for this influence. However, the variables in this research may not be observable in the industrial workplace. The current research model may increase its data generalizability if it is replicated in other manufacturing industries.

Li *et al.* (2017) have developed and tested a conceptual framework to examine how inter-organizational KS facilitates enterprise resource planning (ERP) implementation. Data was collected from a 2014 survey on 283 Chinese companies. SEM was used to evaluate the structural model. The results have shown that organizational preparedness (in terms of availability of resources, organizational structure, and technological capabilities), positive benefits and costs perception, and external influences (in terms of environmental uncertainty, competitive pressure, and partner readiness) would ease inter-organizational KS, which in turn, would advance ERP implementation effectiveness.

Finally, Grant and Preston (2018) have developed a model to assess the social influences to mobilize SC into KS. A two-year-long empirical study examining web posts from a dedicated social supplier platform. The findings have shown that social power plays a powerful role in supporting KS even in typically competitive SCs where information and knowledge exchange is usually protected. Rewards have also been used

Paper	Main idea	Advantages	Limitation
Rashed <i>et al.</i> (2010)	Effect of information and KS on SC performance	Enhancing the supplier's operational performance	The model has not been evaluated in the real environment
Shih <i>et al.</i> (2012)	Investigating the role of KS in SC	Improving forecasting accuracy overall productivity Lowering SC costs Improving capacity realization Inventorying reduction	Only one firm is investigated
Singh and Power (2014)	Examining for the relationship between KS practices within and between trading partners is provided	Improving financial performance and competitive advantage firms	The results are not generalizable for all firms of SC
Tuan (2016)	Investigating the organizational ambidexterity and SC agility	Reducing harmful effects on the environment	Limited sample size and emphasis on just one aspect of the industry
Li <i>et al.</i> (2017)	Examining the SC collaboration for ERP implementation	Facilitating ERP implementation Low costs Enhancing ERP implementation effectiveness	High risk of measurement bias High inaccuracy
Grant and Preston (2018)	Studying using social power and influence to mobilize the SC into KS	Increasing motivation to share information and knowledge in the SC	Not measuring the size, reward, and social power

Table VI.
Side-by-side
summarization and
comparison of the
most important
advantages and
disadvantages of the
KS operational
benefits mechanisms
in SC

as a positive incentive to encourage an individual's information and KS behaviors. They have shown that the economic, as well as the social environment, plays an important role in the level of engagement. While there are many effects to KS across social media networks, this research has focused on social power and social influence as antecedents. Moreover, the study has not tested the extent or strength of social influence on SC members, or the degree and strength of reward power on supplier behavior compared to that from social influence alone.

Table VI provides an overview of the most important advantages and disadvantages of the KS operational benefits mechanisms in SC. According to the reviewed studies in this section, the following benefits have been seen:

- reducing lead-time from the moment of ordering to delivery of the product;
- reducing travel cost;
- reducing SC costs and increasing income;
- reducing inventory level;
- improving production/distribution scheduling; and
- reducing communication cost.

5.4 Summary and comparison

In this section, 25 selected articles are analyzed. The main focus of researchers in the selected papers are improving some parameters such as reduced costs, quick purchasers' access to the product, sharing knowledge and information throughout the SC, design and product innovation, proper SCM and performance improvement. However, in most studies, the sample size was limited, which causes the generalization to not be generalized. We evaluated the factors that have an effect KS on SC to find which factor is more important in any group. Furthermore, we recognized the most important and least important factors. Table VII provides an overview of the discussed KS systems on SC and their main features. In addition, we compared the achievements of the three groups of the selected papers in Table VIII. The results from indicating that the greatest benefit of KS systems in SC is improving performance, developing relationships, sharing information and managing knowledge in the SC. Future research should do a lot of research on other benefits of KS systems in SC to make the users more aware of the benefits of this technology and implement the culture of using KS systems in SC organizations. Eventually, the results of the survey showed that the main challenge and issues of KS systems in SC is trust. Therefore, issues and challenges need to be addressed.

6. Discussion

According to the performed SLR of role KS systems in SC success until 2018, we showed the number of published articles have very high 2018. Furthermore, the highest number of articles published in famous journals. Elsevier with 24 per cent, IEEE with 23 per cent, Springer 21 per cent, and Taylor with 11 per cent of published articles have the highest published articles respectively. Moreover, we identified 21528 papers, which are reduced to 25 studies through the paper selection mechanism that articles are divided into three main categories.

Research findings engender numerous implications for KS and SC literature. During this review, we showed that KS is vital to maintain organizations in a world of flexibility and competitiveness. KS among organization members and between the organization and its

Table VII.
Comparison of the
KS systems on
SC success

Group	Paper	Main idea	Advantages	Limitation
Strategic benefits	Cheng (2011)	Providing a model for the reviews relational risk as a mediating construct	Enhancing the inter-organizational KS Providing the competitive advantage of green SC	The findings reflect the setting of Taiwan's SC only
	Ajmal and Kristianto (2012) Liu <i>et al.</i> (2015)	Examining the KS in SC Examining the game analysis of the KS mechanism for the SC collaborative innovation	Minimizing KS uncertainty Increasing firms' competitiveness Improving competitiveness High innovation Helping KS in organizations	The focus of the study is limited to one area Sample size limit
	Wang and Hu (2017)	Investigating the effects of collaborative innovation activities and capability on innovation performance	High innovation performance in SC networks High speed service High the speed of new products	Low sample size The lack of communication between innovation and KS
	Chuayngul (2017)	Mediating effects of collaboration among business SC firms on inter-organizational trust and KS intention	Useful results for SC multinational companies	Time limitation Low sample size The sample may not represent all global SC behaviors
Managerial benefits	Wang and Qiao (2018)	Studying the incentive mechanism of KS in SC	Improving the probability of KS between enterprises in the SC	Only considering the cost of KS and risk loss in economic factors The study has not been implemented in the cluster environment
	Huang <i>et al.</i> (2010)	Highlighting the importance of knowledge creation and sharing for SC practice	High performance Creating a competitive advantage	Limited information on participants' profiles
	Cervellon and Wermerfelt (2012)	Reviewing the KS among green fashion communities online lessons for the sustainable SC	Highlighting the power of spreading information within the community Producing a groundswell of pressure to change public policies Improving inter-organizational knowledge in SC	
	Cheng and Fu (2013) Lin (2017)	Providing a model for the examine the interrelationship effects KS Developing a model that offers an understanding of the antecedents and consequences of e-SCM diffusion	Facilitating sustain competitive advantages High IT deployment capability High operational capability High human resource capability High competitive performance	The results are not generalizable for all forms of SC The sample size is limited to only one country

(continued)

Group	Paper	Main idea	Advantages	Limitation
Operational benefits	Gao and Ji (2018)	Investigating the influence of relationship commitment on KS in SC	Improving the KS among SC partners High sense of trust	Limit in sample size The lack of empirical evidence Limit in sample size
	Haque and Islam (2018)	Investigating the impact of SC collaboration and KS on organizational outcomes in the pharmaceutical industry	High product quality High new product innovation High customer satisfaction	
Operational benefits	Rashed <i>et al.</i> (2010)	Effect of information and KS on SC performance	Enhancing the supplier's operational performance	The model has not been evaluated in the real environment Only one firm is investigated
	Shih <i>et al.</i> (2012)	Investigating the role of KS in SC	Improving forecasting accuracy overall productivity Lowering SC costs Improving capacity realization Inventorying reduction Improving financial performance and competitive advantage firms	
Operational benefits	Singh and Power (2014)	Examining for the relationship between KS practices within and provided		The results are not generalizable for all firms of SC
	Tuan (2016)	Investigating the organizational ambidexterity and SC agility	Reducing harmful effects on the environment	Limited sample size and emphasis on just one aspect of the industry High risk of measurement bias High inaccuracy
Operational benefits	Li <i>et al.</i> (2017)	Examining the SC collaboration for ERP implementation	Facilitating ERP implementation Low costs Enhancing ERP implementation effectiveness	
	Grant and Preston (2018)	Studying using social power and influence to mobilize the SC into KS	Increasing motivation to share information and knowledge in the SC	Not measuring the size, reward, and social power

Table VII.

Table VIII.
A side-by-side
comparison of the
important criteria KS
systems on
SC success

Classification	Article	Culture	Creativity	Rewards	Reduce		Organizational climate	Development of close relationship		Learning	Knowledge exchange	Innovation	Performance	Trust	Communication quality	Quick access	Product design
					costs	KM		relationship	exchange								
Strategic benefits	Cheng (2011)	x	x	x	x	x	x	✓	x	x	✓	x	✓	x	x	x	x
	Ajmal and Kristianto (2012)	x	x	x	x	x	x	x	x	x	x	x	✓	x	x	x	x
	Liu <i>et al.</i> (2015)	x	✓	x	x	x	x	x	x	x	✓	✓	✓	x	x	x	x
	Wang and Hu (2017)	x	x	x	x	x	x	x	x	x	x	x	x	✓	x	x	x
	Chuayngul (2017)	x	x	x	x	x	x	✓	x	x	x	x	x	✓	x	x	x
Managerial benefits	Wang and Qiao (2018)	x	x	x	✓	✓	x	x	x	x	x	x	✓	x	x	✓	x
	Huang <i>et al.</i> (2010)	x	x	x	x	x	x	x	x	x	x	x	✓	x	x	x	x
	Cervelon and Wernerfelt (2012)	x	x	x	✓	✓	x	✓	x	x	x	x	x	x	x	x	x
	Cheng and Fu (2013)	x	x	x	x	x	x	x	x	✓	✓	x	x	x	✓	x	x
	Lin (2017)	x	x	x	x	x	x	x	x	✓	✓	x	✓	x	x	x	x
Operational benefits	Gao and Ji (2018)	x	x	x	✓	✓	x	x	x	✓	✓	x	✓	x	✓	x	x
	Haque and Islam (2018)	x	x	x	x	x	x	x	x	x	x	x	x	✓	x	x	x
	Rasheed <i>et al.</i> (2010)	x	x	x	x	x	x	x	x	x	x	x	✓	x	x	x	x
	Shih <i>et al.</i> (2012)	x	x	x	✓	✓	x	x	x	x	x	x	✓	x	✓	x	✓
	Singh and Power (2014)	x	x	x	x	x	x	x	x	x	x	✓	✓	x	x	x	x
Operational benefits	Tuan (2016)	x	x	x	x	x	x	x	x	x	x	x	✓	x	✓	x	x
	Li <i>et al.</i> (2017)	✓	x	x	✓	✓	x	x	x	x	x	x	✓	x	✓	x	x
	Grant and Preston (2018)	x	x	✓	x	x	x	✓	x	x	✓	x	x	x	x	x	x

customers, suppliers, and alliance partners, greatly facilitate the process of enhancing the quality of customer service, decreasing production cycles, increasing the cooperation between many department units, and combining the relationships with alliance partners, which thus enhances the organization's competitive benefit.

However, combining KS with innovative activities in SC can enhance the competitive advantage of organizations. To achieve this goal, business partners in SC need inter-organizational trust and collaboration to support KS intention. Based on the study conducted in this paper, we find that KS has many benefits to the success and performance of the SC, but there are some limitations. For example, corporate and industrial culture, work routines, and a high regulatory environment can have a limiting effect on the generation of voluntary engagement in KS among organizations and their SCM. In addition, many people do not share their knowledge because of the fear of losing their jobs or traditional thinking. Also, Short-term SC relationship, traditional ways of doing business has appeared "moderately challenging" factors that hinder the application of knowledge communication within an SC. The short-term relationship encourages an adverse relationship that prevents trust and collaboration. The literature review suggests that the main challenges are the lack of a KMS. Within KM systems, there is a lack of knowledge communication. Moreover, this requires developing awareness to communicate knowledge (Saini *et al.*, 2019).

We found also that KS culture facilitates learning and KS efforts; this is crucial for an enterprise to remain innovative in its numerous production processes and managing technologies. Also, a critical component facilitating KS across the SC belongs to the trust reposed by the partners in one another. Based on Yang (2016) view, organizations would attain higher efficiency if collaborative communications prevail in an SC. Also, in global competition scenarios, rapidly changing customer demand may warrant special consideration by partners in the SC. This characteristic is exacerbated for global SC where the partners have changing the backgrounds and exposures. The development of a generic KS and management model for supporting an enterprise level super-hybrid environment needs meaningfully higher levels of innovation and advanced technology (Shih *et al.*, 2012).

The results also showed that organizational ambidexterity as a predictor of SC agility differs from antecedents in prior SC research. Indeed, with exploratory orientation, the organization explores new knowledge, new technologies, and especially new human resources who engage in revolutionary change. Furthermore, an organization can benefit from ambidexterity not only within the organization itself but also in an SC context (Tushman and O'Reilly, 1996). We found that social power as a key driver to KS within an SC. The results of the studies showed that social power drives a dominant agent through strategies which highlight performance achievements. So, rewards have been used as a positive incentive to encourage an individual's information and KS behaviors. The social impact generated by group norms and behavior's, and social power through rewards, can be observed to play a role in supporting SC members in the KS process. The overall effect of social power can enhance the competitive environment, improving "customer focus" throughout the network and inadvertently and enhancing the sustainability of the SC (Grant and Preston, 2018).

To meet dynamic market demands, the firms must collaborate with partners in SC to innovate new products rapidly. Collaboration between trading partners can decrease the cost and time for effective transfer of knowledge between firms (Grant, 2002). Such value could reside in innovative KS practices providing abilities that are difficult to imitate (Nonaka *et al.*, 2000). So, integration through collaboration between trading partners to ease innovative. Moreover, SC collaborative innovation activities increase innovation performance. As participating in collaborative innovation activities offers a number of

advantages (Slowinski *et al.*, 2015), both customers and suppliers in an SC network can already view each and already have some knowledge of each other's innovation abilities. This collaborative relationship can facilitate negotiations over intellectual property rights, KS, and cost recovery in common projects (Wang and Hu, 2017). Further, the importance of approaching knowledge integration from a complete view is also supported the interdependence between internal-, customer- and supplier-focused knowledge (Singh and Power, 2014).

As a general result of KS in the SC, it improves performance, reduces costs, provides quick access to the product, and so it can be said that lack of KS is the main reason for the poor performance of SCM. Therefore, the importance of understanding drivers to KS across organizations and increasingly across supply networks is more important. Managers can only develop KM strategies if they understand the precursors of KS. The commitment relationship of SC partners has a positive effect on KS and can influence the KS behaviors of SC through reciprocity responsibility. Enterprises should maintain a sense of reciprocity responsibility among SC partners. Finally, knowledge represents a significant source of innovative potential with high strategic value.

7. Open issues

This section offers some key issues that have not been thoroughly studied until now as research directions in the development of KS systems in SC success. According to the research carried out in this study, it was observed that there is no independent method to examine all KS issues in the SC. For example, performance improvement and the development of close relationships, known as the most important effect of KS, have not been addressed in many studies. Designing a strong system to improve performance and facilitate relationships in SC is a challenge, so future studies should address barriers in SC. Also, outsourcing can provide many opportunities for enhancing a firm's performance (Carr and Pearson, 1999).

Also, many studies did not study the specific content and form of the knowledge shared between the supplier partners. So, future research should study the implications of diverse dimensions and content of knowledge for collaborative performance. Assessing the interactions among multiple dimensions of the KS may also offer visions into the process of knowledge transfer between supplier partners. Furthermore, evaluating the influence of suppliers' collaborative abilities on KS and collective learning is very motivating. Further investigations can show whether the new relationships regarding cultural elements and KS between project teams are usable for a broader variety of companies.

The real operational benefits of collaborative innovation are derived when efforts are made to synchronize abilities and strengths with partners for the purposes of collaborative innovation projects. Further, achieving better innovation performance through collaboration is depending on how abilities affect collaborative innovation actions. So, managers must last to focus on guaranteeing that innovation capability at a specific level is achieved, as it establishes an important step toward enhancing firm innovation performance.

Through building the KS model of enterprises in the SC, the effective KS can promote SC enterprise income. On the other hand, a valuation can be made of the alternative strategies and action plans that can be followed by the buyer to lower overall transaction costs. It also facilitates the dynamic mechanism and decision-making conditions of the chain companies. Promoting KS remains a key challenge to managers, especially across supply partners. In an SC context, group influences, as well as powerful reward incentives appear to generate KS behavior. Following on from this, the use of social media networks can motivate SC members to KS.

Organizations climate and culture, and a high regulatory environment can have a limiting effect on KS in SC. Therefore, business partners in SC need inter-organizational trust and collaboration to support KS intention. Also, the importance of understanding drivers to KS across organizations and increasingly across supply networks cannot be understated. Managers can only improve KM strategies if they understand the precursors of KS. However, promoting KS remains a key challenge to managers, especially across supply partners. So, the exhibition of the KS systems within the SC context may help practitioners and managers interested in using KS initiatives to duplicate the methodologies for enhancing the possibilities of a successful KS adoption.

While there are many effects to KS across social media networks, research in this field has not evaluated all factors affecting the KS in the SC. Therefore, comprehensive research in this area is necessary to identify all effective factors so that researchers can evaluate them. Directors should pay attention to both collaborative innovation activities and KS to improve a firm's innovation performance in the future. Managers should understand that a firm's best interests lie in exploiting proprietary technological knowledge without attracting imitators. This purpose may be more easily achieved in an SC relationship.

In addition, organizations should collaborate with trading partners at a full scale for inter-organizational knowledge sharing. Also, risk assessment is a very appealing line for future research (Bagal *et al.*, 2018). Finally, the usage of fuzzy and AHP can be investigated in this domain (Ghadimi *et al.*, 2013; Hosseini Firouz and Ghadimi, 2016; Razmjoooy *et al.*, 2017).

8. Conclusion and limitations

This paper presented a systematic and comprehensive study about KS systems in SC success until 2018 from the Google Scholar Emerald, Science Direct, and ABI/Inform Global ProQuest database and was discussed. First, a systematic selection approach has been adopted for efficient searches and a complete collective process. We determined the number of published articles have very high 2018. Furthermore, the highest number of articles published in famous journals (Elsevier 24 per cent). Furthermore, according to the studies, we categorized KS mechanisms in SC into three groups (1) Strategic benefits, (2) Managerial benefits, (3) Operational benefits. We described each of these groups separately and highlighted the advantages and disadvantages of each of them.

The important issues that studied in these years were the SCM, innovation, performance improvement, knowledge and information exchange, communications facilitation and cost reduction. The results showed that the KS in SC helps to increase the success of the organizations, improve employee performance, increase of competitive advantage, enhance of innovation, and improve relationships between supplier and consumer. However, there were weaknesses, such as staff resistance to share knowledge in the SC because of the fear of job loss. Future studies should discuss the barriers to KS in the supply chain.

There are some limitations to this study. This study limited the search to Google Scholar Emerald, Science Direct, and ABI/Inform Global ProQuest. There might be other academic journals which may be able to offer a more complete picture of the articles related. In addition, non-English publications were omitted from this study. It is possible that the research about the application of KS in SC can also be published in other languages. Finally, more studies need to be carried out using other methodologies such as interviews.

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Appendix 1. The abbreviation table

Supply chain
success

State	Abbreviation
Enterprise resource planning	ERP
Electronic supply chain management	E-SCM
Information technology	IT
Information systems	IS
Knowledge sharing	KS
Knowledge management	KM
Supply chain	SC
Systematic literature review	SLR
Supply chain management	SCM
Structural equation modeling	SEM
Linear structural relations	LISREL

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Table AI.
The abbreviations of
terms used in
the paper

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