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IMPLEMENTATION OF SUSTAINABLE SUPPLY CHAIN MANAGEMENT PRACTICES: FRAMEWORK DEVELOPMENT FOR FUTURE RESEARCH AGENDA

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ABSTRACT

This study is aimed to develop a conceptual model for the inhibiting and facilitating factors of sustainable supply chain management (SSCM) practices. A comprehensive review of existing literature on SSCM is carried out. Meta analysis of existing literature is conducted in which 331 papers covering the issues pertaining to SSCM are reviewed. Using funneling technique, while following a systematic approach, the study concentrated on the textile sector, wherein, fourteen internal and nine external facilitating factors of SSCM implementation are identified. Whereas, nineteen internal and eight external inhibitors of SSCM implementation are also documented. After having a critical review of these inhibiting and facilitating factors, it is found that companies confront these issues while implementing SSCM practices and if the inhibiting factors are addressed effectively by the supply chain and sustainability managers, the implementation of SSCM practices can be smoothened. On the other side, if the facilitating factors are further strengthened, it would also be helping in implementing the SSCM practices. Based on this review, a conceptual model is developed, which can be used as a research agenda in future studies. At the end, limitations and future research directions are discussed.

1. INTRODUCTION

Economic resources are scarce and there is a hot debate amongst the academics, practitioners and regulators about how well the available resources could be utilized today to ensure their least interrupted availability for future generations. This debate gives rise to a body of knowledge well recognized as sustainability. Triple Bottom Line (TBL) is a holistic approach to achieve sustainability in terms of economic growth, environmental safety and social equality (Slawinski & Bansal, 2015). The debate on sustainability resulted in a number of initiatives taken worldwide by governments, corporate sector and not-for-profit organizations to reduce emissions by following green practices, to develop better societies and to develop economized business solutions (World Commission on Environment and Development, 2019). However, implementation of sustainable practices in the corporate sector has its own implications, especially, when the business organizations have to keep a balance between the costs associated with the implementation of sustainable practices and the profitability (Husted & Sousa-Filho, 2017; Clayton & Radcliffe, 2018). Studies suggest that sustainable practices bring competitive advantage for the businesses in today's complex environment, as by taking sustainable initiatives, they develop new competencies (Saeed & Kersten, 2019).

With the rise of globalization, developments in the field of information and communication technologies, better public infrastructure and logistics and shorter product life cycle, it has become very critical for the businesses that how well they are able to manage their supply chains (Saeed, Waseek, & Kersten, 2017). Efforts to integrate sustainable practices in the core business functions i.e. procurement, logistics and knowledge management give rise to an interdisciplinary field referred to as SSCM (Rajeev, Pati, Padhi, & Govindan, 2017). Within this context, a number of standards evolved over time to enable the supply chains more and more sustainable such as EMAS Environmental Management Systems, Valdez Principles and Cleaner Production Programme etc. (Balkau & Sonnemann, 2011). Adopting such SSCM practices bring competitive advantage for the businesses in the supply chains (Jia, Zuluaga-Cardona, Bailey, & Rueda, 2018).

In the textile industry, developing strong supply chains is considered as a competitive advantage, as it helps to ensure delivery of best value to the customers, as well as controlling supply chain risks, dynamism and source complexities in a globalized world (Clayton & Radcliffe, 2018). The role of supply chain management becomes more crucial in the textile sector when it comes to the main success factor i.e. quality, which remains a key concern throughout the supply chain (Cooper, 2010). It requires a very close interaction among all the supply chain partners (Chen & Fung, 2013), however, it is also a fact that supply chain in the textile sector is a complex and long procedure, have a globalized effect, starting from cotton farms to end-user, it passes through a number of processes (Ellen MacArthur Foundation, 2017). Therefore, ensuring quality throughout the value additive processes is challenging. On the other side, the growing consumption of textile products due to fast fashion trends, changing consumer living styles and rising

income levels have social, environmental and economic concerns, therefore, there is more demand of sustainable textile products around the globe (Sweeny, 2015). Consequently, textile producers are obliged to act sustainably to meet stakeholder expectations, build-up a socially responsible reputation and credibility of their suppliers (Oelze, Sustainable Supply Chain Management Implementation–Enablers and Barriers in the Textile Industry, 2017). They have to ensure a range of SSCM practices such as ethical manufacturing, material diversity, usability, reusability, recyclability, efficiency, cost effectivity, resource exchange and optimized utilization of resources (Fletcher, 2013), to meet the sustainability requirements of their multinational customers and brands.

However, while implementing the various SSCM practices, the focal companies in the textile sector confront a range of inhibiting factors, while at the same time, some factors play a significant facilitating role. A number of studies are conducted in various economic and industrial contexts such as Walker, et al. (2008), Rasool, et al. (2016), Stremlau (2016), Kumar & Rahman (2017), Oelze (2017), Rajeev, et al. (2017), Movahedipour, et al. (2017), (Ansari & Kant (2017), Dubey, et al. (2017), Panigrahi & Rao (2018), Waqas, et al. (2018), Kaura, et al. (2018), Jia, et al. (2018), Desore & Narula (2018), Caldera, et al. (2019), Koberg & Longoni (2019), and Raut, et al. (2019), which suggest that by identification of inhibitors and facilitators of SSCM practices, a far better understanding can be developed about the core issues of SSCM implementation.

This background motivated the researchers to carry out a comprehensive review of existing literature on implementation of SSCM practices so that a range of inhibiting and facilitating factors could be identified from the studies conducted in various country and industry context. This will enable the researchers to develop a framework for future research in the field of SSCM with specific reference to the textile industry. Therefore, the aim of the current study is to develop a theoretical framework showing which factors inhibit and which factors facilitate the implementation of SSCM practices, by conducting a comprehensive review of existing literature on SSCM.

The remainder of the study is presented as per the following outline. In the next section, the methodology of the study is defined and in the next section, a critical discussion is made on the inhibiting and facilitating factors. Whereas, in the last section, conclusions are drawn.

2. METHODOLOGY

Comprehensive review of existing literature is carried out by following a systematic methodology, in which existing empirical and theoretical evidence pertaining to inhibiting and facilitating factors of SSCM is synthesized, in a step-by-step manner. Systematic literature review methodology helps the researchers to have a deep insight on the field of inquiry, as well as synthesizing the empirical and theoretical work by following a set criterion of searching and reviewing the existing literature (Booth, Papaioannou, & Sutton, 2016). As a first step, a broader search of research studies was conducted in

reputed scholarly databases namely Emerald, Science Direct, Wiley Online and Springer by using key workds i.e. “sustainabale supply chain management practices”, “sustainability in supply chains”, “inhibitors / barriers of sustainable supply chain management practices” and “facilitators / motivators of sustainable supply chain management practices”. As one of the inclusion criteria, studies published during the period from 2000 to 2019 were considered in the review.

Various filters were applied regarding publication year, area of study, relevance, title, peer-reviewed and availability. Overall, 331 studies meeting the set criteria are reviewed from the field of SSCM in this study. Figure 1 shows that only one study is found in the year 2000. Whereas, an increasing trend in research publications on SSCM can be observed from the year 2005 onward. Studies reviewed are conducted in different countries including both developed and developing; 58 countries, and in different industries; 40 industries. With regards to the textile and apparel industry, 64 studies are found on SSCM, out of which 28 studies are found on inhibitors and 24 studies on facilitators of SSCM implementation in different industries and different country contexts.

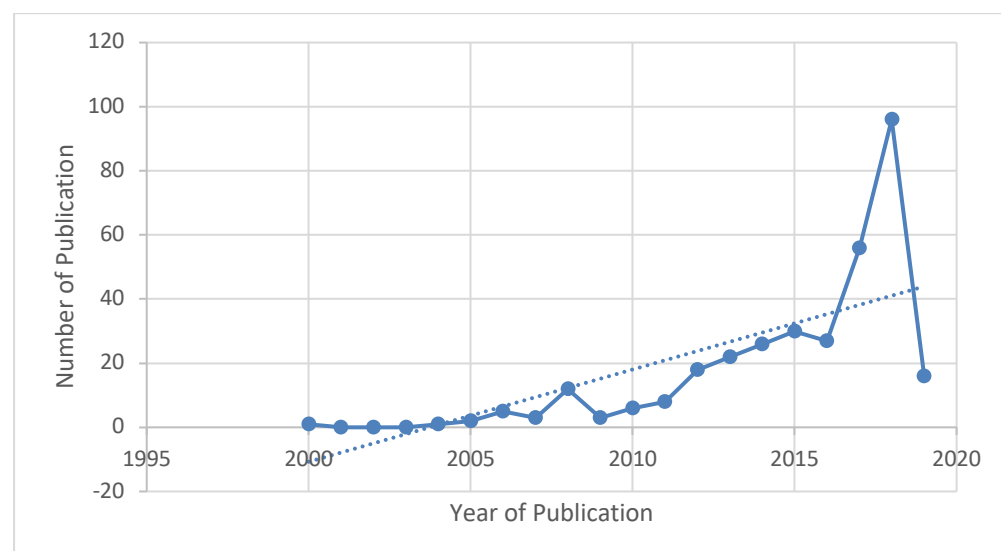


Figure 1: Year Wise Number of Papers Reviewed in the Study

On the basis of meta-analysis, a country-wise / sector-wise summary of papers reviewed in this study on SSCM implementation is presented in Table 1.

	Asian countries	Australia	Bangladesh	Belgium	Brazil	Brazil / Italy	Canada	China	China, United States, United	China, Europe, USA, Asia	China, Hong Kong	Colombia	Egypt	Ethiopia	Europe	Finland	Germany	Gulf Countries	Hong Kong	India	India / China	Indonesia	Iran	Italy	Jordan	Korea	Malaysia	Mexico	Netherlands
Multiple Sectors	1		1					1	2	2	1	1	1		1		3			4									
Textile/Apparel	1		5			1		3		1					3	1	1		2	13									1
Computing Sciences		1									1															1			
Construction		1			1		1	1			2					1	1									1		1	
Manufacturing		2	1		1		1	6						1		2				12				1			1		
leather			1								3																		
Automotive				2	3		4					1	1					1		8						2			
Electronics					1		1	1			1									1									
Oil and Gas					1															1									
Food		1						1		1				1			1		1	1			1						
Agriculture						2			1		1															1			
Dairy																				2									
Mining						1					1									1				1	1				
Rubber																				1							1		
Hospitality							1																	1					
Cosmetics								1															1	1			1		
Private sector				4							1		1			2			1					1				1	
Pub/Private								1			2							1				1		1	1				
Public sector											5										1						1		
Total	2	5	8	6	7	4	8	15	3	4	18	2	3	2	4	6	6	2	4	44	1	1	2	4	3	2	7	2	2

Table 1: Country-wise - Sector Wise Summary of Total Research Papers (1/2)

	New Zealand	Oman	Pakistan	Pakistan / Bangladesh	Pakistan / UK	Pakistan / Canada	Portugal	Qatar	South east Asia	Spain	Spain / Germany	Sri Lanka	Sweden	Switzerland	Taiwan	Thailand	Turkey	UAE	UK	UK/Germany	UK/India	USA	Vietnam	Western countries	Multiple Countries	TOTAL
Multiple Sectors		1	10										1	1					1			2			5	39
Textile/Apparel	1		5		1	1				3	2	2	1	2	1	1	1	1	2	1	1	3	1	1	1	64
Computing Sciences																			1	1						5
Construction							1					1							1	1		1				15
Manufacturing			1										1								1					31
leather			2				1						1												3	11
Automotive			1		1	1							2						1							28
Electronics			1			1					2	1										1				11
Oil and Gas											1		1				1		1			1			3	10
Food			1	2				1	3		3								2			1				21
Agriculture			2								4								3						2	16
Dairy																										2
Mining							1						2	1												9
Rubber								1			1						1					1	1		2	9
Hospitality									1	1																4
Cosmetics																1						6			1	12
Private sector			3																						1	15
Pub/Private			3												1				1				1		1	14
Public sector			4	1																		2			1	15
Total	1	1	33	3	2	3	3	2	4	4	13	4	9	4	2	2	3	1	13	3	2	18	3	1	20	331

Table 2: Country-wise - Sector Wise Summary of Total Research Papers (2/2)

Whereas, a summary of research papers reviewed on inhibitors and facilitators of SSCM implementation is presented in Table 2 and 3.

	Austria	Brazil	Canada	China	Europe	Germany	India	Malaysia	Pak	South east Asia	Sweden	UAE	USA	Misc.	TOTAL
Multiple Sectors					1		1	1	1				1		5
Textile/Apparel				1	1		4		1	1				2	10
Construction	1											1			2
Manufacturing	1						1		1						3
Automotive		1				1	1								3
Electronics		1	1	1											3
Oil and Gas							1								1
Food											1				1
Total	2	2	1	2	2	1	8	1	3	1	1	1	1	2	28

Table 3: Country-wise - Sector Wise Summary of Research Papers on Inhibitors

	Austria	Brazil	China	China, Europe, USA, Asia	China, Hong Kong	Europe	Germany	India	Malaysia	New Zealand	Pakistan	Taiwan	UK	USA	Misc.	TOTAL
Multiple Sectors				1	1	1			1					1	1	6
Textile/Apparel	1					1		1				1			1	5
Manufacturing	1							1		1	1				1	5
Automotive		1					1	1								3
Electronics			1									1				2
Private sector							1									1
PUB/PRIVATE													1			1
Total	2	1	1	1	1	2	2	3	1	1	1	2	1	1	3	23

Table 4: Country wise - Sector Wise Summary of Research Papers on Facilitators

The researchers conducted a content analysis of all these studies and on the basis of content analysis, a critical discussion is made to evaluate various inhibiting and facilitating factors of SSCM implementation.

3. RESULTS AND DISCUSSION

The facilitating and inhibiting factors of SSCM implementation are categorized into internal and external. Internal factors are considered as those which are from within the company, whereas, external factors are considered as all those factors which emerge out of the external environment. Hereunder, a critical analysis of these factors is carried out.

3.1. Facilitators of SSCM Implementation – Internal Factors

After careful review of each study, a total of 14 internal facilitating factors are identified, which act as facilitators in the implementation of SSCM practices in the textile sector. First one is support by organization. SSCM practices cannot be implemented without having support by the organization (Gonzalez-Torre, Alvarez, Sarkis, & Adenso-Diaz, 2010; Oelze, 2017), as it is a prime source in the implementation of SSCM practices. Whereas, some researchers considered promoting corporate culture as a source of support by organizations to implement SSCM practices, such as Stremlau (2016). Secondly, management commitment is considered as one of the strong facilitating factor of SSCM implementation. Stremlau (2016) considered it as top management commitment, Oelze (2017) coined it as just management commitment, whereas Caldera, Desha, & Dawes (2019), viewed it as senior management support.

The third important internal facilitating factor of SSCM implementation is company strategy. Stremlau (2016) argued that for having a sustainability strategy, aligning various departmental strategies is a must for SSCM implementation. On the other hand, Oelze (2017) pointed out the need of a strategy-based approach for the SSCM implementation. While, Caldera, Desha, & Dawes (2019) recommended that assigning clear responsibilities, through a strategy led approach, facilitated the SSCM implementation. Green activities or initiatives also act as the SSCM implementation facilitator, as found by Diabat, Kannan, & Mathiyazhagan (2014). This could include, eco-based designing, hazard management, adoption of green purchasing practices and environmental safeguards. Additionally, green practices communication also acts as a facilitator of SSCM implementation (Stremlau, 2016). Fifth important facilitator of SSCM implementation is the involvement of the employees. Both Stremlau (2016) and Oelze (2017) considered the involvement of employees as inevitable for SSCM implementation. Internal collaborations among different departments of an organization are also found as a source to facilitate SSCM implementation (Oelze, 2017; Stremlau, 2016).

In addition, health and safety standards, being aligned with sustainable development goals of the United Nations, enable the implementation of SSCM practices (Diabat, Kannan, & Mathiyazhagan, 2014). Previously adopted SSCM practices provide a baseline for the implementation of new SSCM practices (Stremlau, 2016). Companies want to avoid reputational risk thrive to implement SSCM practices to enhance their competitive advantage, therefore, reputational risk avoidance also act as a facilitator of SSCM practices. Stremlau (2016) further found that firm size matter when a firm goes with the implementation of SSCM practices. Firms having larger size are more likely to adopt SSCM practices due to having considerable resources, therefore firm size is also a significant facilitator of SSCM practices.

Companies tend to take initiatives to show them socially responsible. Such initiatives are also found as a strong facilitator of SSCM implementation (Stremlau, 2016). Training is an important facilitator of SSCM implementation, as through training, the understanding of sustainability enhances, which makes the employees more vigilant and motivated to follow the SSCM practices (Oelze, 2017). Using tools and techniques through which

lean and green production can be promoted, is also considered as one of the facilitator of SSCM practices (Caldera, Desha, & Dawes, 2019), as such tools and techniques help in overcoming overproduction issues and adopting just-in-time approach (Chiarini, 2014), adopting standard operating procedures (Djekic, ovic, Dragojlovic, & Dragovic, 2014) and improving employee engagement in SSCM practices (Faulkner & Badurdeen, 2014). Moreover, business orientation plays an effective role in facilitating SSCM practices. Businesses having growth orientation are more inclined to adopt SSCM practices, as they strive to work on their growth at one side and on the other side, they work on optimal utilization of resources during manufacturing. This way, they also promote traceability and transparency (Caldera, Desha, & Dawes, 2019).

3.2. Facilitators of SSCM Implementation – External Factors

External environmental factors also act as facilitators of SSCM practices. From the review of literature, nine key factors are identified. Support from government through supportive rules and regulations is considered as an important external facilitator of SSCM practices (Wu, Ding, & Chen, 2012; Diabat, Kannan, & Mathiyazhagan, 2014). Government support could be through giving incentives to the companies or defining policies for promoting SSCM practices (Stremlau, 2016). Therefore, government support and regulations are considered as one critical facilitator of SSCM practices. In addition to this, pressures from different stakeholders also facilitate SSCM practices. These pressures could be from competitors. The business strategy of competitors could push the companies to adopt sustainable practices to remain competitive in the market (Diabat, Kannan, & Mathiyazhagan, 2014; Stremlau, 2016). At some instances, the interest of companies could be matching with the competitors, so could also be looking for collaborations with each other, so that they could learn how to adopt SSCM practices (Oelze, 2017).

One other external pressure is from society, which could be in form of gaining social capital (Wu, Ding, & Chen, 2012) and the welfare of the community in terms of improving their economy and living standards (Diabat, Kannan, & Mathiyazhagan, 2014). Motivation to develop social capital and economic welfare of the community are considered two important aspects which build social pressure to act sustainably. Therefore, these social pressures facilitate the implementation of SSCM practices.

Mostly, the implementation of SSCM practices are required by the customers, therefore, focal companies face major pressure from their customers to implement SSCM practices. Literature referred to these pressures as demand by customers (Stremlau, 2016) and client satisfaction (Diabat, Kannan, & Mathiyazhagan, 2014). On the other side, in order to ensure sustainable practices throughout the supply chain, the focal companies ensure that their suppliers also act sustainably, therefore, they tend to develop good relations with their suppliers. Focal companies also develop collaborations with their suppliers, which enable them to implement SSCM practices. Therefore, having

good relations with the suppliers facilitate SSCM practices (Oelze, 2017; Stremlau, 2016).

NGOs are considered as one of the key players in developing pressure on the companies to implement SSCM practices (Stremlau, 2016). In order to develop rapport and to avoid any reputational risk, companies go into collaborations with the NGOs (Oelze, 2017). This helps them to handle the pressure exerts by such organizations and at the same time, it enables the companies to implement SSCM practices (Oelze, 2017).

Investors also exert pressure on companies to implement SSCM practices (Stremlau, 2016). This is due to the increased awareness of investors regarding sustainable business operations and production processes by adopting greener products and production methods (Diabat, Kannan, & Mathiyazhagan, 2014). Such pressures enable the implementation of SSCM practices; therefore, investor pressures are also considered as a facilitator of SSCM practices. In a broader context, economic stability and growth, which excel employment and infrastructural development also act as a facilitator of SSCM practices (Diabat, Kannan, & Mathiyazhagan, 2014). Seeking professional advice from external stakeholders and from members of collaborative networks also facilitate the SSCM implementation (Caldera, Desha, & Dawes, 2019).

3.3. Inhibitors of SSCM Implementation – Internal Factors

The systematic review of literature enabled the researchers to identify nineteen internal factors which inhibit SSCM implementation in the textile sector. One of the key inhibiting factors, which restrict the implementation of SSCM practices is financial constraints. Various researchers considered financial constraints in a different way. Zaabi, Dhaheri, & Diabat (2013) considered that higher cost of sustainability restrict the companies to implement SSCM practices, whereas, Stremlau (2016) found inadequacy of budget and finances as inhibiting factor of SSCM implementation. Similarly, Oelze (2017) found that the companies face resource and cost issues in SSCM implementation and Rasool, Ahmad, & Nazam (2016) found it as simply financial issues. Whereas, Panigrahi & Rao (2018) and Majumdar & Sinha (2018) found that companies found SSCM implementation less attractive due to the involvement of high investments and low returns. Limited access to finance for the green product and processes and fears of financial losses or failures also inhibits the implementation of SSCM practices (Panigrahi & Rao, 2018). Other aspects of financial constraints could be high implementation and maintenance cost (Majumdar & Sinha, Modeling the barriers of green supply chain management in small and medium enterprises: A case of Indian clothing industry, 2018), costly implementation of sustainable technologies (Caldera, Desha, & Dawes, 2019) and demonetization (Raut, Gardas, & Narkhede, 2019). Moreover, when the companies do not make available the funds allocated in the annual budget and also do not make available the minimum resources required for survival of sustainable activities also hinder the SSCM practices (Caldera, Desha, & Dawes, 2019).

Another important aspect where organizations face issues in implementing SSCM practices is management constraints. Researchers found management constraints in different aspects. The lack of commitment of management or lack of top management commitment is found as a major inhibitor of SSCM implementation (Majumdar & Sinha, 2018; Zaabi, Dhaheri, & Diabat, 2013; Stremlau, 2016). In some cases, researchers found that managers lack intrinsic motivation which restricts them to implement SSCM practices (Oelze, 2017), whereas, in some cases, managers lack the capacity to implement SSCM practices (Majumdar & Sinha, Modeling the barriers of green supply chain management in small and medium enterprises: A case of Indian clothing industry, 2018). In some cases, managers put the SSCM practices on lesser priority (Caldera, Desha, & Dawes, 2019). These factors are considered management constraints, which hinder the companies to adopt SSCM practices.

Companies lack IT skills and expertise which is also a major hindering factor in SSCM practices implementation. Some companies fail to adopt the IT strategy (Zaabi, Dhaheri, & Diabat, 2013), whereas some companies lack in having information and communication technologies due to which they fail to implement SSCM practices (Stremlau, 2016). In some cases, SSCM implementation is restricted due to lack of innovation (Rasool, Ahmad, & Nazam, 2016), lack of professionals having exposure of green systems and technical expertise (Panigrahi & Rao, 2018) and lack of required IT skills (Caldera, Desha, & Dawes, 2019).

Managers also lack a basic understanding of sustainability. For instance, they hold little know-how about the concept of sustainability (Zaabi, Dhaheri, & Diabat, 2013), lack knowledge about sustainability (Oelze, 2017; Rasool, Ahmad, & Nazam, 2016), know very less about the environment (Panigrahi & Rao, 2018) and have little awareness of sustainability (Caldera, Desha, & Dawes, 2019). Therefore, lacking understanding of sustainability inhibit the SSCM implementation.

Another important aspect where companies confront issues in SSCM implementation is lack of training and education about sustainability. Various researchers highlighted this issue such as Caldera, Desha, & Dawes (2019), Majumdar & Sinha (2018), Stremlau (2016) and Zaabi, Dhaheri, & Diabat (2013) considered it as lack of training and education, whereas Panigrahi & Rao (2018) considered it as lack of skilled human resource and understanding of environmental benefits arise due to implementation of SSCM practices.

Companies lack in environment management which causes hindrance in SSCM implementation. This lack of environment management is due to high-cost implications of disposing wastes (Zaabi, Dhaheri, & Diabat, 2013), lack of ownership of environment safety (Rasool, Ahmad, & Nazam, 2016), costly environment safety solutions and lack of availability of ways and means of managing hazards (Panigrahi & Rao, 2018) and failure to adopt environment measures (Majumdar & Sinha, Modeling the barriers of green supply chain management in small and medium enterprises: A case of Indian clothing industry, 2018).

Another critical factor which inhibits SSCM implementation is related to organizational structure and system design. In some cases, it is found that existing organizational structure restrict SSCM implementation (Stremlau, 2016). Whereas, it is also found that organizational structure shows inflexibility while shifting to green systems (Majumdar & Sinha, Modeling the barriers of green supply chain management in small and medium enterprises: A case of Indian clothing industry, 2018) and sometimes the complexity in system design cause hindrance in the implementation of SSCM practices (Majumdar & Sinha, 2019).

Companies also lack in having environment friendly processing and marketing of the products. For instance, companies use low cost packaging material which harms the environment (Zaabi, Dhaheri, & Diabat, 2013), they do not follow green marketing practices (Rasool, Ahmad, & Nazam, 2016) and also they do not improve the product characteristics (Panigrahi & Rao, 2018). All of these factors restrict the implementation of SSCM practices. Moreover, companies fail to follow green logistics and reverse logistics (Zaabi, Dhaheri, & Diabat, 2013), as they lack in facilities through which they can practice reverse logistics (Rasool, Ahmad, & Nazam, 2016). This is also related to the lack of knowledge of the green practices (Panigrahi & Rao, 2018), due to which they fail to implement SSCM practices. It is also found that companies lack in green purchasing (Stremlau, 2016) due to lack of competencies in handling supply chains and purchasing function (Rasool, Ahmad, & Nazam, 2016) and also due to poor adoption of green purchasing practices (Panigrahi & Rao, 2018).

Companies also lack proper monitoring and evaluation of sustainability practices. They do not use proper methods for measuring the performance of sustainability practices (Stremlau, 2016) and takes the wrong measures to evaluate sustainability efforts. This phenomenon, therefore, inhibits the implementation of SSCM practices. In addition to this, companies do not have a defined eco-friendly strategy due to which SSCM implementation inhibits (Zaabi, Dhaheri, & Diabat, 2013; Panigrahi & Rao, 2018). Green production is also one of the areas where companies lack, and this shortcoming inhibits SSCM implementation. In the absence of green production (Rasool, Ahmad, & Nazam, 2016) and lack of green materials availability, technology and processes, complex green processes systems and designs and lack of clarity of the results of green practices (Majumdar & Sinha, 2018) are the major factors which inhibit SSCM implementation.

Another important aspect which inhibits the SSCM implementation is the non-aligned short term and long term goals of the organizations; due to different short term and long term goals, companies do not focus on making their supply chains sustainable (Zaabi, Dhaheri, & Diabat, 2013).

Company size is considered as an inhibitor of SSCM implementation (Stremlau, 2016). However, previously, it was observed that company size act as a facilitator. This dichotomy is associated with the small and large size of the companies. When the size of the company is large, it acts as a facilitator of

SSCM implementation. However, if the size of the company is small, it acts as an inhibitor of SSCM implementation (Stremlau, 2016). Lack of health and safety measures also act as an inhibitor of SSCM implementation (Panigrahi & Rao, 2018). In addition to this, there are some other factors such as lack of responsibility among employees (Panigrahi & Rao, 2018), lack of use of the tool through which risks can be managed (Caldera, Desha, & Dawes, 2019) and lack of integration at various organizational functions such as production, procurement, logistics and distribution (Raut, Gardas, & Narkhede, 2019).

3.4. Inhibitors of SSCM Implementation – External Factors

From the review of literature, this study has identified eight external inhibiting factors which restrict the implementation of SSCM practices. One of the major aspects found in this category is the lack of support from governments. A number of researchers highlighted this inhibitor in their studies, although, they have presented it in different perspectives. For instance, Zaabi, Dhaheri, & Diabat (2013) considered it as lack of sustainability standards and the regulations, whereas, Rasool, Ahmad, & Nazam (2016), Oelze (2017) and Stremlau (2016) considered it as just lack of regulations. A different perspective is presented by Panigrahi & Rao (2018) who claimed that companies do not consider sustainability seriously as governments lack in regulating them through strict rules and regulations. Whereas, Majumdar & Sinha (2018) and Majumdar & Sinha (2019) pointed out that due to least support by regulators, companies show their inability to implement SSCM practices. The intensity of this inhibitor increases when regulatory authorities have the least control on companies (Caldera, Desha, & Dawes, 2019) and when governments put in place out of context and ineffective sustainability policies (Raut, Gardas, & Narkhede, 2019).

Another important aspect which inhibits the implementation of SSCM practices is the economic constraints. Poor economic conditions (Zaabi, Dhaheri, & Diabat, 2013; Rasool, Ahmad, & Nazam, 2016), low employment opportunities (Panigrahi & Rao, 2018), market uncertainty (Majumdar & Sinha, 2018) and low foreign direct investment (Raut, Gardas, & Narkhede, 2019) are some of the key economic factors which inhibit the implementation of SSCM practices.

Companies face issues from the supplier side when they go with SSCM implementation. Suppliers do not fulfil their commitments (Stremlau, 2016), coordination with the suppliers is a major hindrance (Rasool, Ahmad, & Nazam, 2016), issues in assessing standards complied by suppliers with regards to environment protection (Panigrahi & Rao, 2018) are some of the major hindrance from the supplier side which inhibits SSCM implementation. Moreover, lack of rewards for green suppliers (Majumdar & Sinha, 2018), absence of green suppliers and lack of trust among supply chain partners (Majumdar & Sinha, 2019) also inhibit SSCM implementation.

Companies also face issues from the competitor side, which inhibit the implementation of SSCM practices. It is also observed that pressures from the competitor side act as a facilitator of SSCM practices as well. However, in

some instances, competitors' pressures become an inhibitor of SSCM practices and due to these pressures, companies are constrained to abandon SSCM practices. For instance, in a cost competitive environment, a company has to stop its sustainability program to remain competitive in the market (Stremlau, 2016). Companies also face cultural issues while implementing SSCM practices. For instance, communication barriers and varying cultural context in a global environment (Rasool, Ahmad, & Nazam, 2016; Stremlau, 2016). In addition, there are social issues which inhibit the implementation of SSCM practices such as ignoring the social aspect of sustainability (Rasool, Ahmad, & Nazam, 2016) and failing to take initiatives for the economic welfare of the community being suffered from the production operations (Panigrahi & Rao, 2018). Some other prominent factors found in the literature which inhibit SSCM implementation are poor infrastructure (Panigrahi & Rao, 2018; Raut, Gardas, & Narkhede, 2019) and lack of self-regulation by the industry (Zaabi, Dhaheri, & Diabat, 2013).

4. CONCLUSION

SSCM has emerged as a hot area of debate among academics and practitioners. However, the implementation of SSCM practices in the textile sector is found a challenging phenomenon. The globalization, information and communication developments, better public infrastructure and logistics provisions and shorter product life cycle due to fast fashion trends are some of the key aspects requiring businesses to strengthen their supply chains. A number of efforts are being made to integrate the concept of sustainability in supply chain management. For instance, making the procurement, logistics and knowledge management as sustainable business activities. Various sustainability standards have been put in place to ensure sustainability throughout the supply chains.

Supply chain management in the textile sector is a source to develop a competitive advantage. It helps in the provision of the best value for money to the customers, also it helps in managing supply chain risk, fixing source complexities and dynamism. Considering the quality aspect, the importance of sustainability in the supply chain becomes more crucial. While reviewing the literature on SSCM implementation, it was found that companies face a number of factors which either inhibit the said implementation or facilitate the SSCM implantation. However, at the same, it was found that the literature on inhibiting and facilitating factors of SSCM is scattered having spread across various industries and country contexts and lacks uniformity. A number of factors exist in one country or industry context do not prevail in other country or industry context.

The lack of uniformity and existence of scattered literature gave motivation to the authors of this study to conduct a comprehensive review of existing literature on implementation of SSCM practices so that a range of inhibiting and facilitating factors could be identified from the studies conducted in various country and industry context. Therefore, the aim of the current study was to develop a theoretical framework showing which factors inhibit and which factors facilitate the implementation of SSCM practices, by conducting

a comprehensive review of existing literature on SSCM. This has enabled the researchers to develop a framework for future research in the field of SSCM with specific reference to the textile industry.

The authors have reviewed 331 studies from the field of SSCM published between the time period from 2000 to 2019. After careful scrutiny, some specific studies pertaining to inhibitors and facilitators of SSCM are identified for further review from the textile sector of different countries. Table 2 and 3 show that 10 studies are found regarding the inhibitors, whereas, only five studies are found regarding the facilitators of SSCM in the textile sector.

The factors identified as inhibitors or facilitators are further divided into either internal or external factors. The study has documented fourteen internal and nine external facilitating factors of SSCM implementation. Whereas, nineteen internal and eight external inhibitors are documented in this study. From the review of these inhibiting and facilitating factors, it is found that companies confront these issues while implementing SSCM practices and if these inhibiting factors could be addressed effectively by the supply chain and sustainability managers, the implementation of SSCM practices can be further smoothed. On the other side, if the facilitating factors could be further improved, it would also be helping in implementing the SSCM practices. Based on this review, the authors have been able to develop the following conceptual framework (Figure 1), which provides a basis for future research on the SSCM implementation.

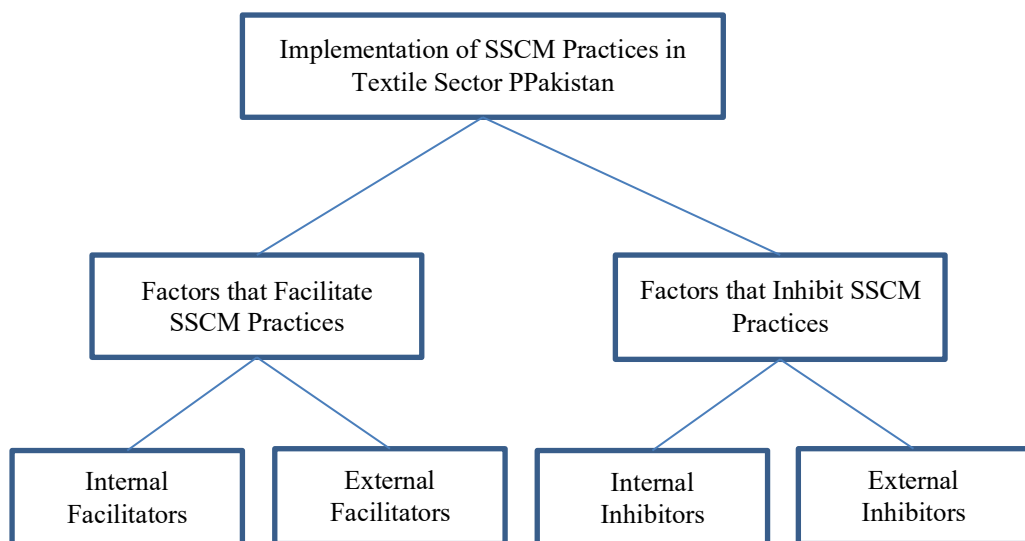


Figure 2: Conceptual Framework for Future Studies

This study is conducted under certain limitations. The first one is that for identification of inhibiting and facilitating factors of SSCM implementation, it has relied only on already published work. Future studies can overcome this limitation by seeking evidence from the managers of the textile industry regarding these inhibiting and facilitating factors. Moreover, the study has focused only on the inhibiting and facilitating factors of SSCM from the textile sector. A more diverse kind of factors could be identified if more industrial sectors to be included in the study.

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