CHAPTER 2
LITERATURE REVIEW
2 LITERATURE REVIEW

This chapter gives the literature review on supply chain orientation and explores the key dimensions of SCO that influence the performance of supply chains. Section 2.1 outlines the theoretical foundation of the study. Section 2.2 presents the literature review process. Section 2.3 gives the detailed evolution and development and linkages of SCO, mediating variables SCA and SCI and output variable SCP. Sections 2.4 and 2.5 present the research gaps and the research questions, respectively.

2.1 Theoretical Foundation

Some theoretical structures are included in this study to highlight the evolution of a research model and its practical insight. Based on the following theories, we have proposed research framework for establishing SCO-SCP relationship and other two intervening variables namely supply chain integration (SCI) and supply chain agility (SCA). These theories and the intervening variables are elaborated in the subsequent sections.

- Resource-Based View (RBV)
- Dynamic Capabilities (DC)
- Relational View (RV)

2.1.1 Resource-Based View

The RBV and other theories mentioned above have their roots in strategic management. According to the RBV theory, firms that can collect resources and capabilities that are unsubstitutable, valuable, rare and inimitable will outperform the competition (Barney, 1991; Rumelt, 1984; Wernerfelt, 1984). The *rareness* of
resources implies there is a perceived resource shortage in the market. \textit{Substitutability} is the proportion in which competitors can replicate similar resources. \textit{Value} refers to aligning resources with the outer environment to decrease threats and use opportunities. \textit{Inimitable} implies difficulty in (Wright, Dunford, & Snell, 2001).

RBV theory advocates that firms should identify suitable resources and capabilities to outperform the competition and then deploy these selected resources to increase value (Sirmon et al., 2007). In RBV theory many times, resources (tangible) and capabilities (intangibles) are used interchangeably, to support the development and implementation of firm strategies (Ray et al., 2004). Resources can be defined as “Stock or supply of materials, staff, money and other assets that can be drawn on by an organization to work more effectively” and capabilities “refer to a firm’s capacity to deploy resources, usually in combination, using organizational processes, to effect the desired end” (Amit & Schoemaker, 1993, p. 35). Example of tangible assets can be factory, raw materials and technology and network logistics (Mentzer et al., 2001). Intangible assets can be proficiency, relationships, customer loyalty, supply chain capabilities and philosophies (Hult et al., 2002; Mentzer et al., 2001). So in this study, possession of SCO becomes the intangible asset and the source of competitive advantage. SCO posses the characteristics of ‘capabilities’ as proposed by RBV theory.

The ownership of the resources is will not necessarily outperforms the competition (Sirmon, Hitt, & Ireland, 2007). Possession of resources will lead to performance only via effective and efficient management (Dollinger, 2005). Newbert (2007) used RBV as the base and systematically reviewed empirical research and found that the higher performance can be achieved by combining available resources rather than by using resources in isolation. Therefore collaboration with supply chain partners becomes
essential element for enhancing the SCP. If we combine resources that are casually related, it can increase the value creation of individual resources (Priem & Butler, 2001). So by mere possession of SCO will not lead to SCP. Resources must be combined within and across the firm network to enhance the performance. Therefore the resources and capabilities possessed by a firm (SCO in our context) will not lead to performance unless proper integration with the supply chain members (i.e. SCI). The relation view theory explains the SCI in detail.

Despite being a detailed view, RBV is considered to be stable and insufficient for firms to define competitive gain in changing business environments (Black & Boal, 1994). Dynamic Capabilities (DCs) view has been proposed to bridge this gap and is considered as most logical extension of RBV (Teece et al., 1997).

2.1.2 Dynamic Capabilities

Teece et al. (1997, p. 516) has described dynamic capability as “the firm’s ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments” (Teece et al., 1997, p. 516). Some of the salient features about the conceptualizations of Teece et al. are: (1) In their study, strategic management as a key driver for classification of ability. (2) Building, integration and reconfiguration of internal and external competences is the expected outcome of these capabilities (i.e. SCO). The underlining assumption was ‘evolutionary economics perspective’ (Nelson & Winter, 1982); organizational learning; path dependencies and role of routines. (3) They turned the spotlight on a certain type of external factor, that is, specifically on dynamic environments. (4) They contended that DC are constructed and not acquired. DCs are created using organizational processes. (5) Like resources and capabilities of RBV theory, DCs are treated as heterogeneous entities originating
from firm-specific assets, paths, and processes. (6) Authors have clearly indicated that DCs are key enabler of sustainable competitive advantage.

Several different explanations of DCs appeared after Tece et al.'s seminal work. DCs can take numerous forms. Say the condition of the steady industry form, DCs are similar to the established notion of routines. So they are comprehensive, complex processes that depend largely on previous knowledge and information, to attain desired results. Whereas in high-velocity markets, DCs are experimental, simple, uneven processes that depend on quickly shaped new knowledge to yield uncertain results (Eisenhardt & Martin, 2000).

Tece (2007) evaluated DCs as one of the most detailed view by technical and evolutionary fitness. Technical fitness refers to “how effectively a capability performs its function, regardless of how well the capability enables a firm to make a living”; Whereas Evolutionary fitness has been defined as “how well a capability enables a firm to make a living” (Helfat et al., 2007, p.7). Teece (2007) separated DCs into 3 categories: (i) sensing capabilities: These are achieved through search and observing processes. It is similar to the vigilant side of agility. (ii) Seizing capabilities: Seizing means how firms deal with sensed opportunity, generally via conducting some actions including figuring out the market offerings. It determines the best suited business framework for using opportunities. (iii) Reconfiguring capabilities: The continuous reconstruction of operational capability with the seized opportunities is done through reconfiguring. Reconfiguring is achieved via internal focused learning. Unlearning the old capabilities along with learning new ones is the crux of internal learning. In the context of supply chain DCs are closely resembled by supply chain agility (SCA).
2.1.3 The Relational View Theory

There is another view that helps us understand competitive gain of a firm through strategic management literature. The RBV of a firm stated that remarkable performance of a firm is derived from the possession of resource-based advantages, whereas RV theory proposed that competitive gain may be extended outside firm limits. Researchers have proved that superior performance can be achieved via relation-specific investments and collective efforts of the business partners (Dyer, 1996). Dyer & Singh (1998) argued that firms having strong ties with business partners have better prospects for achieving competitive advantage compared to firms operating in isolation.

The potential sources for inter-organizational competitive advantage are knowledge-sharing routines, Effective governance, Complementary resources/capabilities and relation-specific assets (Dyer & Singh 1998).

The competition is now shifted to chain versus chain (Stank et al., 2005) instead of autonomous entities. The view in RV theory supports that competitiveness emerges from inter-firm sources of advantage rather than from within-firm sources (Mesquita et al., 2008). RV theory supports shift of focal point from the firm level to chain level of competition, and is an important extension to the RBV (Carter, Rogers, & Choi, 2015).

So the supply chain integration and supply chain agility are essential practices that supply chain partnering firms should build and maintain. SCA cannot be developed without collaborating with the supply chain partners (Braunscheidel & Suresh, 2009; Swafford, Ghosh, & Murthy, 2008). SCA is an outcome of firms’ relational specific investments with supply chain members. So SCI and SCA can act as a competitive
advantage as advocated by RV and DC theory respectively. The SCA and SCI will be discussed in detail in the subsequent sections.

2.2 Literature Review Process

2.2.1 Unit of Analysis and Delimiting: Research papers published in English in peer-reviewed journals were established as the basic unit of analysis. These included empirical works, conceptual papers, analytical modeling, conference papers, dissertations (both master’s and doctoral), textbooks, working papers, news articles and reports and case studies. The review excluded papers that are published in other languages.

2.2.2 Search of the Literature: A structured keyword search was done using keywords, namely, supply chain orientation, holistic supply chain management, supply chain philosophy, supply chain integration, supply chain agility, and SCP. The search entailed databases of major publishers including Elsevier/Science Direct, Emerald, Wiley Inter Science and Taylor & Francis. Online library databases such as EBSCO, ABI Info and J-STOR were also searched. More than a thousand titles were found based on the initial keyword search. These articles were checked for relevance, initially based on the titles. When the scope was not clear, the relevance of papers was judged based on analysis of title keywords and abstracts. If the scope was not clear through the abstract search, the specific article was quickly scanned.

2.3 Evolution, Development, and Linkages of Key Constructs

2.3.1 Supply Chain Orientation

As already discussed, the literature on SCO is scarce; the selection of papers thus became very straightforward, that is, the census survey. All the papers dealing with SCO were included in the study, and totally 25 papers were selected for the review
Almost all the papers were published in topmost operations management journals.

SCO may be categorized into two parts: (1) strategic SCO and (2) structural SCO each contain three dimensions. Figure 2.1 shows SCO and its six dimensions. The various studies on SCO are described in depth in appendix A.

**Figure 2.1 SCO Dimensions**

SCO as a management concept came to light in 2001 and was proposed by Mentzer et al. (2001). In the quest of defining supply chain management, Mentzer et al. (2001) coined the term ‘SCO’ and argued that SCO is a precursor of SCM. Mentzer has played a big role in the development of the SCO concept such as in SCO conceptualization, scale development and scale testing. Min and Mentzer (2004) advocated that supply chain–oriented firms should build and sustain cultural elements including trust (credibility and benevolence), organizational compatibility, commitment, top management support and cooperative norms with their supply chain members.

SCM and superior business performance are not achieved if only a single firm within a supply chain has SCO. These can be achieved only if SCO is implemented across the various firms involved in supply chain, as shown in Figure 1.3c. Without SCO, there will be no coordination among supply chain partners, and individual firms may
exercise disjointed processes/practices, which will result in great inefficiency (Min et al., 2004).

SCM philosophy advocates that a firm can improve its SCP by adopting the following strategies:

1) System approach: The supply chain is viewed as a whole.

2) Strategic affinity: Emphasis is placed on strategic affinity towards collaboration and developing objectives that are consistent with each other.

3) Customer focus: All efforts are directed to value creation for the ultimate customer.

Supply chain–related threats and opportunities can be aptly managed by embracing SCM philosophy (Ellram & Cooper, 2014; Gibson et al., 2005). Dissemination of the SCM philosophy among the various supply chain members is the crux of improving the entire SCP. According to the seminal paper of Min & Mentzer (2004), implementation of the SCM philosophy results into SCO. Thus, in a nutshell, SCM philosophy is the basic foundation of the supply chain management literature, implementation of SCM philosophy leads to SCO, and SCO leads to SCM and a higher business performance.

There is an increase in the number of papers on SCO published in the last decade (refer to Appendix A1). The first paper published on SCO in 2001 gives the definitions of SCO and SCM. This trend shows that the scholarly community has exhibited an increase in interest in the SCO concept. As per Liao, Hong, & Rao (2010), the impact of SCM on firm performance has increased and will continue to increase in the future. Intense competitions, heavy dependency on outsourcing and
global sourcing have resulted in special attention being given to SCM (Davis, 1993; Gunasekaran & Ngai, 2005). As firm dependence on supply chains is increasing, more research is required for managing the threats and opportunities that emanate from implementing SCM.

Because SCO is a continuously evolving concept, there is a greater tendency to perform qualitative type of research studies than qualitative research studies. In the 25 papers that we selected (Appendix A1), there are 52% qualitative papers, 32% quantitative papers and 16% are mixed type of research papers. Among the papers on qualitative research, grounded theory is the most widely used, followed by content analysis and lastly the case study approach. In terms of the quantitative studies, most papers have used structural equation modelling based on AMOS as the data analysis tool followed by Partial Least Squares and lastly the SPSS.

SCO is being intensely studied in developed countries. SCO has been extensively studied in the US, and has contributed to the maximum number of papers, followed by Europe. There is one study conducted by (Signori, Flint, & Golicic (2015) that has taken the global view of the term SCM. These authors have conducted a global study of the wine industry and have covered 88 organizations spread across 9 wine regions in the US, Australia, New Zealand and Italy.

SCO is the underlining philosophy of SCM, so all the papers contribute to the theory of SCM. Other than the theory of SCM, almost all papers are based on one or more theories. Resource-based theory (Defee & Fugate, 2010; Hult et al., 2008) and the commitment-trust theory (Mello & Stank, 2005; Jüttner, 2005) are heavily used theories in the chosen sample space. Because the SCO concept is concerned with the systemic, strategic consequences of various actions of supply chain flows across SCM
players, dependence on theories from areas including economics, psychology and sociology is inevitable.

Supply chains are an integral part of business. A business must minimally have a supply chain as shown in Figure 1.3a. The complexity of the supply chain increases as the business expands. The OM research community has always favoured the manufacturing sector as the primary sector for research. SCO is no exception to this trend. Most papers pertain to the pure manufacturing sector. There are very few studies on the manufacturing and service sectors. Few researchers have conducted studies on specific manufacturing sectors, for example, in the wine industry, dairy sector and automobile sector. Min and Mentzer (2004) have included all the industries in the sample space. The authors have taken 302 forms that fall under the manufacturing, service, distribution and public service sectors.

SCO has been further refined by Hult et al. (2008, p. 527) as the “A SCO is the extent to which there is a predisposition among chain members toward viewing the supply chain as an integrated entity and on satisfying chain needs in an integrated way.” Thus, Hult et al. (2008) have revised the original definition coined by Mentzer et al. (2001) in order to implement SCO among supply chain partners. Therefore, the concept of viewing the “supply chain as an integrated entity and on satisfying chain needs in an integrated way” becomes central to SCO as originally proposed by Mentzer et al. (2001). Hence, they have coined another strong argument for SCI as a facilitating variable in tandem with RV theory. So SCI can be considered as one of the facilitators of SCO.

The integration with supply chain partners is a must for achieving success in the marketplace, but firms must be ready to embrace change as per ever-changing
business environments (Braunscheidel & Suresh, 2009). Based on the RBV and DC theory of section 2.1, SCA is a consequence of SCO and antecedent to SCP. Agility has been perceived as the leading competitive tool for achieving a competitive advantage (Tseng & Lin 2011). SCA has gained importance owing to the fact that businesses are no longer competing solely as autonomous players but rather as value chains (Christopher, 2005; Handfield & Nichols, 2004). As per the recommendations of Gligor & Holcomb (2012), supply chain players must be able to collectively align their capabilities (i.e. SCO) to counter the changes in the business environment. Hence, SCA can be considered as one of the facilitators of SCO.

In summary, SCO is an important and not well-researched construct. The majority of the research on SCO has been conducted using the qualitative approach, so qualitative analysis especially the empirical analysis of SCO is a valid area of research. Most SCO-related studies are conducted in developed countries. Therefore, SCO investigation in developing countries is still not explored. Further, SCO output and facilitating variables have not been explored by researchers. Thus, there is ample scope for examining consequences (i.e. SCP) and intervening variables (i.e. SCI and SCA) related to SCO.

2.3.2 Supply Chain Performance

SCP is the most commonly used exogenous variable in the operations management context. For this study, totally 25 papers were selected for review (Appendix A2). Almost all the papers were published in topmost operations management journals. Last few decades have witnessed vast amount of literature on performance management. These studies were either on measurement of business performance (Marr & Schiuma, 2003) or on defining performance measures (Neely et al., 1997),
performance models and conceptual frameworks (Bititci et al., 2000; Cocca & Alberti, 2010; Eckerson, 2010; Epstein & Westbrook, 2001; Estampe, Lamouri, Paris, & Brahim-Djelloul, 2013; Heskett et al., 1994; Kaplan & Norton, 1992; Kanji, 1998; Neely et al., 1995; Rosemann, & Vom Brocke, 2015). Researchers have extended the performance management concept to different domains including lean manufacturing, warehouse and distribution management and supply chain management. The main reason for opting for any performance management is for quantifying processes (Neely et al., 1995). According to Peter Drucker, a famous management consultant, “if you can’t measure anything you can’t manage it”. So in general, terms of performance management are directed to quantification of efficiency and effectiveness of processes and systems.

A performance management system is analysed by asking the following: “What are the performance measures used?”, “What are they used for?”, “How much do they cost?” and “What benefit do they provide?” (Neely et al., 1995). To tackle the above questions, a performance management system can be considered as key performance indicators (KPIs), that is, as a set of representative measures. These KPIs can be financial or non-financial indicators (Weber & Thomas, 2005).

The role of a performance management system in the context of SCM is very imperative. SCP measurement has considerably attracted the interest of the research community in the last couple of decades (Taticchi et al., 2010). McGrath, (1996) developed PRTM the first general SCP measure (Wong & Wong, 2011). Factors such as globalization, environmental conservation, advances in technology and sustainability are changing the landscape of supply chain management and forcing firms to develop efficient SCP measures (Bititci et al., 2012).
The literature related to SCP measurement is given in Figure 2.2. The conceptual work is focused on measurement construct and prescriptive methodologies, whereas the empirical work is focused on performance content rather than on the measurement process. However, the two dimensions that are common across all of the SCP literature are efficiency and effectiveness.

**Figure 2.2: SCP Literature Classification**

Because of increasing competition, many organizations are trying their best to reduce lead time, increase flexibility, enhance new product development activities, etc. Chow, Heaver, & Henriksson, (1994) were the first to provide a proper definition for SCP and coin few measures to capture logistics performance (Chia, Goh, & Hum, 2009). SCP management is becoming more and more complex owing to factors such as increase in the boundaries of organizations (Puigjaner & Lainez, 2008), global sourcing, outsourcing, and integration of supply chain (Meixell & Gargeya, 2005). Good SCP needs to be economical, valid, integrative, compatible, and robust (Gopal
Because a supply chain network is a very complex and dynamic phenomenon, the choice of appropriate SCP indicators is difficult (Panayides & Lun, 2009). Li, Yang, Sun & Sohal, (2007) proposed that SCP can be enhanced if manufacturer links supply chain goals/objectives to clearly defined performance parameters.

However, the measurement of SCP is a complex and challenging task. Some of the issues in managing SCP as described by Brewer & Speh (2000) are as follows:

- **Overcoming mistrust.** SCM players are traditionally perceived as being self-profit oriented, so trust is needed for information symmetry. This is captured by the benevolence and credibility aspect of SCO.

- **Lack of understanding.** Supply chain managers tend to focus on internal performance and neglect the need for considering the multi-organizational nature of measures. This is addressed by the cooperative norm aspect of SCO.

- **Lack of control.** Supply chain managers tend to rely on indicators that are in their control. In reality the inter-organizational performance indicators are cumbersome to measure. This is addressed by the commitment and organizational compatibility aspects of SCO.

- **Different goals and objectives.** SCM is a network of different firms. So individual organizations have diverse goals, which lead to the need for having differing measures. This is addressed by the organizational compatibility aspect of SCO.

- **Difficulty in connecting measures to customer value.** Linking to stakeholder value is becoming difficult to manage. Customers’ natures are changing. The
creation value for the customer aspect derived from SCM philosophy of SCO addresses this issue.

- **Deciding where to begin.** The holistic approach to capture system performance is very difficult to implement. This is because partnering firms do not have a ‘watertight partition’, that is, the system aspect of SCO.

- **Lack of standardized performance measures.** There is little agreement on performance measures related to units to use, structure, format, etc.

Under-determination is an issue in the context of SCP, that is, variables used as a proxy to measure SCP may not capture all the dimensions of the output (Beamon, 1999; Mentzer et al., 2001). The SCP indicator ‘fill rate’ can be improved by waiting, to completely fill the capacity of a truck. A higher fill rate may be a good proxy for the purpose of transportation costing, but it is a poor indicator of customer service. This is because customer waiting time increases for achieving high fill rate.

The research on implementation of SCP measures is very limited (Nudurupati et al., 2011). Issues related to the overall performance management literature also exist for SCP measures. Some of these issues are lack of system thinking (Chan & Qi, 2003), mismatch with overall business strategy (Gunasekaran et al., 2004), inclination to use financial measures than non-financial measures (Beamon, 1999); neglecting customers and competitors (Chan, 2003); having a self-centred view and lack of a complete SCM context (Beamon, 1999). The selection of appropriate SCP measures is decisive because supply chain managers need to evaluate their supply chains as a whole rather than on an individual basis. Gunasekaran, Patel, & Tirtiroglu, (2001) have provided SCP metrics and their sources in detail.
The presence of multiple organizations makes SCP measures difficult to manage. Integration with supply chain partners is one solution to manage SCP (Flynn, Huo, & Zhao, 2010; Frohlich & Westbrook, 2001; Huo, 2012). As the level of integration with the supply chain partner increases, information asymmetry issues get reduced (Leuschner, Rogers, & Charvet, 2013; Prajogo & Olhager, 2012; Sahin & Robinson 2002). Thus, there are strong chances that SCI is a facilitator for SCP. Besides SCI, the joint efforts of supply chain members to quickly adjust their collective capability to respond to a dynamic business environment will help them stay ahead of competition and achieve success (Gligor & Holcomb, 2012). Following the same arguments of SCO, and based on literature support (Mason-Jones & Towill, 1999; Blome, Schoenherr, & Rexhausen, 2013), SCA can be considered as the antecedent of SCP.

Hence, it is essential to have a summary of SCP, which is a well-researched construct in the context of operations management.

SCP measures are increasingly becoming difficult to ascertain owing to factors such as expansion of organizational boundaries, increased demand for integration and lack of misunderstanding. The linkages between SCO and SCP are still unclear. The antecedent of SCP (i.e. SCO) and the facilitators of SCP (i.e. SCI and SCA) are valid areas of research.

2.3.3 Supply Chain Integration

The typical way of managing a supply chain is by adoption of new techniques, for example, Just-In-Time JIT, Lean and Enterprise Resource Planning (ERP) (Gunasekaran et al., 2004). SCI is “the strategic integration of both intra- and inter-organizational processes” (Flynn et al., 2010, p. 1) and “gauges the extent to which
Supply chain partners work collaboratively together to gain reciprocally beneficial outcomes” (O’Leary-Kelly & Flores, 2002, p. 1). As per Kannan & Tan (2010), organizations are opting for SCI for building sustainable value. In tandem with the definition of supply chain management, the objective of SCI is to efficiently move products/services, information and finances from the source to the destination (Frohlich & Westbrook, 2001; Leuschner, Rogers, & Charvet, 2013; Wong et al., 2011). The lack of SCI has serious consequences on SCP because low inventory turnover, procurement delays, inappropriate forecasts and degradation of quality, etc. result in losses for individual firms and supply chain member firms. This will ultimately destroy consumer satisfaction.

SCI includes two major dimensions: (1) internal integration and (2) external integration (Flynn et al., 2010; Wong et al., 2011). Internal integration refers to “the extent to which a manufacturer re-engineers its own organizational strategies and processes to synchronized processes to satisfy its customers’ demands” (Kahn & Mentzer, 1996, p. 9). Organizational efforts to remove internal functional barriers and make resources flow seamlessly across various departments lead to internal integration (Gunasekaran et al., 2004). Internal integration promotes cooperation among various departments within the organization (Wong et al., 2011). The lack of internal integration and competing objectives of the specific departments concerned leads to duplicity of work, wastage of resources. This will ultimately affect the overall performance of the supply chain (Pagell, 2004). Moreover, internal integration helps in reducing information asymmetry (Narasimhan & Kim, 2002).

External integration includes the integration of activities/processes with suppliers and customers. There are several tactics and benefits to integrate with the supplier. These include information sharing, collaborative planning, joint forecasting and production
(Ragatz et al., 2002). However, customer integration empowers the focal organization to provide improved customer service and expand market opportunities and respond quickly to customer needs (Swink et al., 2007). As per Yu, Jacobs, Salisbury, & Enns (2013), internal integration is an enabler for external integration, and together it affects financial and customer performances. As per Flynn et al. (2010), the crux of external integration is to build and maintain an interactive relationship with suppliers and customers. Internal integration and external integration are essential for enhancing SCP (Prajogo & Olhager, 2012).

2.3.4 Supply Chain Agility

The research on SCA can be broadly classified into two categories: one category focuses on responsiveness and speed of supply chains, whereas the other focuses on awareness to change. Gligor & Holcomb (2013, p. 95) defined a firm’s SCA as “a firm’s ability to quickly adjust tactics and operations within its supply chain to respond or adapt to changes, opportunities, or threats in its environment.” Swafford et al. (2008) distinguished flexibility and agility and proposed a framework for future research. Yusuf, Gunasekaran, Adeleye, & Sivayoganathan, (2004) studied the range and reach of SCA and concluded that agile supply chains should reach an optimal level of range and reach. The dimension of SCA varies from 2 to 7 (Li et al., 2008; Gligor et al., 2013). There are various empirical studies on SCA for testing its antecedents and consequences (e.g., Blome et al., 2013; Gligor & Holcomb, 2012; Chiang, Kocabasoglu, & Suresh, 2012; Braunscheidel & Suresh, 2009). SCA research on awareness to change highlights the role of information in building a relationship with supply chain members (e.g., Dove, 2005; Swafford, Ghosh, & Murthy, 2008; Prajogo & Olhager, 2012; Yang, 2014). Agarwal et al. (2007) proposed a model for
an agile supply chain consisting of IT-driven virtual integration, collaborative planning and strategic human resource management.

Flexibility and agility are two constructs that always go hand in hand. According to Chiang et al. (2012), agility cannot be achieved without flexibility. Swafford et al. (2008) attempted to draw the line between agility and flexibility and concluded that agility is external and flexibility is the ability that is operational and internal. However, Braunscheidel & Suresh (2009) opined that agility is representative of both external and internal abilities. Almost all the studies on SCA focus on western/developed countries. Little research is done on the SCA of emerging economies, for example, India. Also, no research has addressed the manufacturer’s SCA on SCP and SCO. Moreover, the effect of intervening variables, that is, the mediating/moderating variable role of SCA in between SCO and SCP is not clear.

This section described the review of the pertinent literature on the two base constructs SCO and SCP along with the intervening variables SCI and SCA. The research gaps and the research questions found from our literature review will be discussed in the next section.

2.4 Research Gaps

The following are the gaps identified during our literature survey:

- “Research should attempt to create and empirically verify a predictive model of SCO. Research possibilities include the facilitators and outcomes of SCO” (Omar et al., 2012, p. 16).

- “Further research is necessary to determine how SCO and inter-organizational SCM can relate and interact to influence firm performance. Research is needed
to integrate several factors that may influence the effects of SCO on firm performance” (Patel et al., 2013, p. 737).

- “SCO is a relatively new constructs and requires investigation with supplier management and supply chain performance” (Schulze-Ehlers et al., 2014, p. 395).

- "How the onset of behavioural antecedents in the relationships between supply chain partners can affect integration across the supply chain and consequently lead to higher supply chain performance can be developed.” (Tsanos, Zografos, & Harrison, 2014, p.455)

- Most of the studies have been carried out in developed countries. There are no studies that have considered the Indian manufacture’s SCO and its implications on the performance of supply chains. There is a need to build an integrated SCO-SCP framework.

- Most of the studies are qualitative in nature, and very few studies are based on primary data.

We next present the research questions that led to this study:

2.5 Research Questions

In this thesis, we propose the following research questions:

1. How does SCO impact SCP?

2. What is the role played by inter-organizational SCM practice SCI in the relationship between SCO and SCP?
3. What is the role played by inter-organizational SCM practice SCA in the relationship between SCO and SCP?

4. What is the combined effect of SCI and SCA on the relationship between SCO and SCP?

Based on the above research gaps and research questions, a conceptual framework and set of hypothesis are proposed in Chapter 3.