



**Effects of Supply Chain Dynamism on Supply Chain Performance:
The Mediating Role of Supply Chain Integration**

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Abstract:

The efficient supply chain management (SCM) is vital for securing competitive advantage and improving organizational performance since competition is no longer between organizations, but among supply chains. In the perspective of supply chain dynamism (SCD), the suppliers, manufactures and retailers are facing major problems regarding the performance for gaining or sustaining the attractiveness. This research tested the relationships between supply chain dynamism, supply chain integration and supply chain performance. Data for the study was collected through survey from manufacturing industry (textile) and the relationships were tested using dynamic capability theory. The findings of the study are that the supply chain dynamism leads to enhanced supply chain performance with mediation effect of supply chain integration (SCI). This study covers the manufacturing industries of Pakistan. In future, research can be conducted on other industries like pharmaceutical, service sector. Moreover, dimensions of supply chain integration (internal integration, supplier integration, information integration, external integration) separately as mediator can be further investigated.

Keywords: Supply chain integration, supply chain performance, textile, manufacturing, mediating role, competitive advantage

INTRODUCTION

Industrialization is known as the most effective economic driver for economic development. In the dynamics of the manufacturing sector in the national economy, called productivity gains, fast

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technological development, convenient accessibility to world economies, can be treated as critical factors (Szirmai & Verspagen, 2015). In addition, it is also reported that the transition from agriculture to manufacturing and from manufacturing to the service sector is very necessary for economic growth. Thus, in the current body of literature, the belief that no country can achieve economic growth without considering economic development is very popular. Industrialization and job opportunities will reflect the economic growth process; a significant increase of development in the country would be achieved (Berg, 2016).

The findings of the Ministry of Finance suggest that, in terms of economic growth, the manufacturing sector still plays an important role in the economy of Pakistan. After the agricultural and service industries, it is considered the third largest industry in Pakistan and the share of this industry is 14 percent to 16 percent of the total GDP. The proportion of workforce in Pakistan's manufacturing sector is 15.30 percent, while the same level in agriculture and services is 49.70 percent and 28.70 percent, respectively (MinistryofFinance, 2017). Because of its forward and backward connections with other economic sectors, the manufacturing sector is considering the major element of economic growth. This sector provides about 16.1 percent of the total workforce with employment opportunities, while its contribution to GDP is about 13% to14% (Ministry of Finance, 2020).

The manufacturing industry in developing countries (MIDC) recently facing unprecedented market pressures created by new business trends. The manufacturing sectors have upgraded their operational activities by using various production techniques to cope with this pressure, such as "total quality management, business process reengineering and lean technology, and others". Despite these efforts, the market share of the MIDC has not yet been achieved. It continues to drive industry to get extra productivity from their manufacturing systems expected (Georgise, Thoben, & Seifert, 2014).

Today's in business world competition does not exist between organizations but competition is between supply chains. Effective supply chain management enables companies to improve product flow through accurate demand and sales forecasting. The manufacturers, suppliers, distributors, and retailers are major active members of the supply chains and these members are responsible to provide the demanded services and products to customers timely. The companies are improving their products flow through accurate forecasting of demand and sale on the basis effective supply chain management. Supply chain management clearly identifies the strategic nature of coordination between trading partners and to explain the dual purpose of supply chain management, which is to improve the performance of the whole supply chain. The coordination between the participating members of supply chain management is important for completion of customer's demands. The effective coordination, cooperation and collaboration internally and externally can improve competitiveness and in the end would support company performance (Lia, Ragu-Nathanb, Ragu-Nathanb, & Raob, 2006). Organizations are not able to work in isolation in a globalized and highly competitive business environment. The value of collaborating with the entire supply chain, including raw material suppliers, manufacturers, and customers, should not be discounted by organizations (Farooq & O'Brien, 2012). Green et al. (2006) illustrated that excellent coordination and integration effectively satisfies dynamic customer demand throughout supply chain activities.

Organizations cannot easily achieve objectives without value-based supply chain relationships. In this competitive environment, the importance of supply chain management is rising. In supply chain management, collaborative and coordinated activities and behavior are essential for maintaining market advantage and achieving results and creating value-based relation through the supply chain network. Supply chains nowadays are very complicated business networks that need to be collaboratively managed and globally optimized. In addition, the global business environment is evolving continually and rapidly. Only a few features of the business environment of the 21st century are insecurity, increase of competition, reduced delivery, increasing of consumer demands, and pressure of decreasing cost or lower cost. It has become the main or important drivers of the tracking and managing the efficiency of the supply chain process and performance of the firms. Performance management refers to the application of procedures, practices, metrics, and technology in order to establish a cohesive relationship between supply chain strategies, planning, execution, and control. The supply chain demands that member organizations have the means to determine the total supply chain performance to meet the requirements of the end customer (Stefanovic, 2014).

Aunyawong, Wararatchai, & Hotrawaisaya (2018) conducted their studies on the mediating effects of trust on supply chain performance and the results of the study are expected to deliver some new knowledge that can subsidize to the efficiency of supply chain performance. They indicated that future research can be conducted on the development in technology, advancement of product and mediating role of quality of information, information sharing on supply chain performance (Aunyawong, Wararatchai, & Hotrawaisaya, 2018). Moipone (2015) conduct his study with the mediating effects of Inter-organizational relationship on supply chain performance. He suggested that “future research could also effect on other variables that mediate the relationship with supply chain performance. Such variables may include supply chain integration, supply chain agility, supply chain resilience and supplier selection, among others”. Naseer (2017) collected data from two firms and investigated the relationship of supply chain practices and organizational performance. He suggested that future studies should incorporate more supply chain practices and dimensions (Naseer, 2017).

Due to technological advancement in supply chain, the suppliers, manufactures and retailers are facing major problems regarding the continuously performance for gaining or sustaining the attractiveness. Monitoring and improvement of performance of supply chain has become an increasingly difficult task. Therefore, the conduction of this study is necessary in order to address the difficulties of manufacturers and suppliers encounter. In this research paper the researcher investigates the “influence of supply chain dynamism on supply chain performance: mediating role of SCI”.

LITERATURE REVIEW

Supply Chain Dynamism (SCD)

Supply chain dynamism is the pace of development in both products and processes, has become increasingly important. It can have a major impact on information sharing in the SCM context, such as system quality, stage of manufacture; facilitate modern technologies for consumer knowledge and information sharing, and supply chain practices (Benton & Zhou, 2007). Since knowledge is

usually scattered and organizational advancement increases development, one company is unable to develop isolated product and process innovations (Svahn & Westerlund, 2007). Therefore, if a company recognizes the features of its production process, including SCD, this can help it to improve performance by becoming more flexible and attaining better data processing capabilities (Fisher, 1997). Despite its significance, SCD considered the cause uncertainty because of the development of new products and services that can affect performance (Zailani & Rajagopa, 2005). Fisher (1997) shows that, one producing stable, low-margin functional products, an organization focusing on the production of innovative products with highly unpredictable demand and evolving supply processes is more likely to have different supply chain strategies.

Supply Chain Integration (SCI)

All parties who are satisfying the customer's order are part of a supply chain. Besides the producer and retailer, the SC comprises manufacturers, wholesalers, dealers, and end-users. The SC involves roles relevant to the reception and implementation of consumer orders. These roles are operations, new product creation, promotion, financing, sales, and customer support (Chopra & Meindl, 2006). SCI applies to the degree of shared cooperation and management of SC operations by and between organizations (Flynn, Huo, & Zhao, 2010). SCI is a tool for combining knowledge between vendors, retailers, dealers, and clients. SCI stresses connectivity and simplification by organizing, cooperating, communicating, and avoiding redundant business processes (Pagell, 2004).

Supply Chain Performance (SCP)

Supply chain performance is characterized as the SC's capacity (1) To supply quality goods and services in correct and precise amounts and (2) To reduce the overall costs of products and services for the SC's ultimate customer (Bode, Wagner, Petersen, & Ellram, 2011). In most organizations, management skills are the liability for organizational success. However, lately, the operational effectiveness depends on the efficiency of the SCs through which the business acts as a collaborator (Bakar, Hakim, Chong, & Lin, 2010). SCM has been an integrated strategy, which involves waste prevention, collaborative practices, distribution, quality monitoring, flexibility, satisfaction with consumers, time, prices, warehousing, and long-term vendor partnerships to gain a comparative edge and improve performance (Jote, Beshah, Kitaw, & Mangano, 2013).

Dynamic Capability Theory

The theoretical background of this research is focused on a Dynamic Capability View (DCV) which is basically an expansion of the Resource-Based Viewpoint (RBV). They elaborated that the RBV was unable to understand how certain popular businesses showed 'timely responsiveness and quick and scalable product creativity, coupled with the capacity of management to organize and reallocate internally and externally skills and competencies effectively'. They argued that "dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (Teece & Pisano, 1994). As such, DCs can be understood as bundles of capabilities and not only single processes. Eisenhardt and Martin (2000) claim that DC's are a collection of unique and observable mechanisms through which management adjust their resources to generate better value-creating techniques, obtain and shed assets, merge them together, and reconstitute them. Entire manufacturing procedures, for example,

through which executives incorporate their broad abilities and operational experiences to produce revenues generated goods and services (Martin & Eisenhardt, 2000).

Teece et al. (1997) explain that “dynamic capabilities processes comprise four main clusters: reconfiguration, leveraging, learning and creative integration. Reconfiguration refers to the transformation and recombination of assets and resources. Leveraging involves replicating a process or system that is operating in one business unit into another, or extending a resource by deploying it into a new domain. Learning allows tasks to be performed more effectively and efficiently as an outcome of experimentation, reflecting on failure and success. Finally, creative integration relates to the ability of the firm to integrate its assets and resources, resulting in a new resource configuration” (Bowman & Ambrosini, 2003). This theory linked with supply chain because Supply chain is the network of businesses participating in the downstream and upstream sharing of information, products, services and skills, engaging in enhanced corporate and inter-company actions, practices, acquisitions and initiatives that deliver value to the ultimate consumer (Christopher, 2016). It encompasses all activities related to the joint development and deployment of knowledge (Christopher, 2016). Our industry needs the collaboration of other businesses in order to perform effectively. They need to work with their customers and suppliers and utilize the facts, expertise, tools and strengths of these stakeholders to sustain competition in their business and meet the consumer needs. These technological changes will guide the supply chain to development of dynamism (Chen, Paulraj & Lado, 2004).

Supply Chain Dynamism & Performance

From the RBV perspective, it is not sufficient to control valuable resources in order to gain a sustained competitive advantage. In order to achieve sustained competitive advantage, it is responsibility on companies to develop capacities to allow efficient resources configuration to meet changing market conditions. The RBV suggests that it will be possible for companies that develop greater organizational and SCM capabilities to achieve superior performance. SC capabilities are the building blocks of supply chain strategy together with resources and are a potential source of competitive advantage (Teece, Pisano, & Shuen, 1997). Current process of optimization has very little impact on the success of modern companies. The ability of the company to sense the market possibilities and capitalise on these opportunities is mostly affected. In order to understand current and prospective events, market-focused companies learn about their rivals, channel members, and clients. Stronger market focuses; greater ability to collect interprets and uses market data (Day, 1994).

H1. There is a relationship between supply chain dynamism and supply chain performance

Capabilities in the SC provide a significant relation between integration of the SC orientation and business efficiency. Supply chain contributing significantly to an organization’s capability to use available resources to facilitate the efficiency of the SC (Bharadwaj, 2000). SC features in aspects of a firm's opportunity to exchange information resources, collaborates business processes, and is attentive to the requirements and final market demands of suppliers and customers. Irreconcilable functional areas can affect communicative and integration between suppliers and customers between collaborating organizations (Mitsuhash & Greve, 2009). Svahn and Westerlund (2007) consider that, depending on industry, product portfolio or production strategy, the 'perfect' degree

of SCI may differ. Results demonstrate here connect the capacity to evolve in terms of development to modifications in production processes. To gain greater operational efficiency, manufacturing companies facing a high degree of SCD should incorporate more high sensitivity and specificity and supplier-customer integration. Consequently, when selecting an overall organizational framework for managing SCI procedures and influencing operational efficiency, management teams must consider the function of SCD as a main contingency variable, as Contingency Approach argued that executives should consider the particular present circumstances faced by companies when making a big decision (Svahn and Westerlund, 2007). Along, this reasoning, the following hypothesis is proposed

H2. There is a relationship between supply chain dynamism and supply chain integration.

SCI & Performance

Yawar and Seuring (2017) found that supply chain information systems enhance the relationship between lean/agile SC strategy and SC performance. In other words, SCI strategy impacts on the performance of SCs. Also, Qrunfleh and Tarafdar (2014) and Flynn, Huo and Zhao (2010) found that SCI was related to both business and operational performance of supply chains. Integration is the planned and essential arrangement of business cycles and capacities inside an association that is coordinated to assurance that firm accomplishes greatest performance. SCI begins with integration between the functional disciplines and functions within an organization before external integration is implemented (Basnet, 2013). "Production flexibility is the ability of manufacturing firms to switch production schedules in a speedy manner in which they react to threats or opportunities from the external environment. Production flexibility has found to be improving the performance of manufacturing organizations which is also be regarded as the efforts taken by manufacturing firms to respond to changes in the environment with minimal costs" (Sánchez & Pérez, 2005). Therefore, the hypothesis developed as

H3. There is a relationship between SCI and SC performance.

Mediation of SCI

SCI is stated as the extent to which a company collaborates with suppliers and controls internally and externally procedures in a supportive manner in order to execute fluent activities of product lines, facilities, information, financial services and decision making with the aim of giving its customers significance (Flynn, Huo & Zhao 2010). SCI ensures effective cooperation across the company's functions and requires external integration with the provider and consumers. By executing integrative SCM, measures are taken to ensure a high degree of competitiveness in each company (Ventura, 2005). Gimenez and Ventura (2003) identified that a company that can accomplish a high degree of internal integration execution and external integration in the SC can enhance its competitive position. The need for SCs to engage in effective collaboration, unify in a comprehensive strategy to represent a cohesive immobilization to maximize profitability and minimize total operational costs echoes in multiple companies, assuring companies to direct all parties to integrate their assets and work collaboratively (Ding, Guo and Liu, 2007).

H4. SCI mediates the relationship of SCD and SCP

RESEARCH METHODOLOGY

The current study is a causal study, because it aims at investigating the cause/effect relationship between SCI, dynamism and performance at Pakistan manufacturing organizations. This study follows the research philosophy of positivism, in that; it uses a structured questionnaire surveying the sample population from the manufacturing industry of Pakistan. The data was collected from the Pakistani manufacturing firms and used convenience sampling method. SCM is a new concept for Pakistani manufacturing industry because some industries recently implemented and still many are running without this SCM (Naseer, 2017). The population of this study was the Pakistani textile industry. The researcher selected this industry because textile industry is one of the main industries in Pakistan. It plays an important role in helping the country's economy through manufactured goods, high jobs and foreign exchanges. The industry is undergoing huge changes in terms of globalization and numerous economic challenges. With regard to GDP employment, foreign exchange earnings, investment and value added, and revenue generation, the proportion of textile industry in the country's economy and its contribution to exports has placed as largest individual industry-leading sector in the region. The cotton production in the country, considered as one of the best ten textile exporting countries of the world, is the main factor in contributing to this huge development in the textile industry. Pakistan is the fourth largest manufacturer of cotton yarn and cloths, with a spinning power of 5 percent of the global market being the third largest player in Asia. It ranks 2nd in yarn exports, 3rd in cloth exports and contributes 3% to the global textile trade (UKEssays, 2018).

The three hundred responded was sample size of the study. These respondents were the manager, supervisors and educated employee of the five textile firms. The convenience sampling technique was used for generating of responses in this research because of limited time period for this research and unfortunate situation of the country due to Covid-19. Convenience sampling is most effective technique when time and available resources will be limited (Etikan, Musa, & Alkassim, 2016). The unit of analysis of this study was the manager, supervisors and educated employee of the textile mills. The constructed questionnaire was distributed among the 500 responded through social media, online media. The 385 responses received from respondents and useable responses were 300. Other 85 responses were in-complete form and 115 employees not submitted the responses. Primary data technique was applied for data collection and data was collected by questionnaire from four textile mills.

RESULT & DISCUSSION

The main objective of the study was investigation of relationship of SCD, SCI and SCP at Pakistani manufacturing industry. This section is consisting on results and data analysis. Firstly, analyzed the demographic data, secondly analyzed the relationship between variables through correlation.

Table 1: Demographic Characteristics

Dimension		Frequency
Name of Textile Industry	Textile-A	30 (10.00%)
	Textile-B	55 (18.33%)
	Textile-C	140 (46.67%)
	Textile-D	50 (16.67%)
	Textile-E	25 (8.33%)
	Total	300 (100%)

Position	Top Management level	20 (6.67%)
	Medium Management level	115 (38.33%)
	Low Management level	165 (55%)
	Total	300 (100%)
Organization Competency	Total	300 (100%)
	Cloth production	41 (13.7%)
	Others	107 (35.7%)
	Printing	31 (10.3%)
	Raw material production	10 (3.3%)
	Spinning /Processing	101(33.7%)
	Total	300 (100%)

Table 2 indicates that the demographic characteristics of the textile industries in term of name, number of employees, level of employees and competency. The data was collected from five textile industries; Textile-A 30 (10.00%), Textile-B 55 (18.33%), Textile-C 140 (46.67%), and Textile-D 50 (16.67%) and Textile-E 25 (8.33%). The respondents position industry is as top management level 20 (6.67%), medium management level 115 (38.33%) and low management level 165 (55%). The number of employees in these textile industries are above hundred and 30(10 %;) responded response that our textile is working from 5 to 10 years and 270 (90%) responded responds as textile industry is operating from above ten years. According to responses, the competency of textile industry is 41 (13.7%) in cloth production, 31 (10.3%) printing, 10 (3.3%) in raw material production 101(33.7%) in spinning /processing and 107 (35.7%) in others (from raw materials to made-up). Reliability refers to the ability of a method to calculate and compare variables of interest continuously over time (Allan, 2013). Reliability focuses on how reliable or stable a test is. The researcher tested the reliability of the questionnaire by giving it to various people and checking the results. Cronbach's alpha strongly exhibits logical reliability in terms of the relationship between collections of objects. Lee Cronbach in 1951 "provides a measure of the internal consistency of a test or scale; it is expressed as a number between 0 and 1." However, Field (2009) argues that "a Cronbach's alpha value equal or greater than 0.5 is regarded to be an indication of reliability."

Table 2: Reliability Statistics

Variable	Cronbach's Alpha	N of Items
SCD	0.70	6
SCI	.830	9
SCP	.813	6

"The reliability of variables measured through Cronbach's Alpha. The values of Cronbach's Alpha must lie between 0 and 1. While there is no lower limit for the reliability coefficient, the higher the value of Cronbach's Alpha, more internally consistent the scale". The Cronbach's Alpha values of variables of the study are SCD is 0.70, SCI is 0.85 and SCP is .813. These values are considered good because these values are close to 0.

H1: There is a relationship between SC Dynamism and SC Performance.

Table 3: SCD & SCP

		SCD	SCP
SCD	Pearson Correlation		.221**
	Sig. (2-tailed)	1	.000
	N	300	300
SCP	Pearson Correlation	.221**	1
	Sig. (2-tailed)	.000	
	N	300	300

** . Correlation is significant at the 0.01 level (2-tailed).

As shown in table 3, Pearson correlation was applied for assessing of relationship of SCD and SCP. The ($r=0.221$) represent positive relationship between both variables. The relationship between both variables ($p=0.00$) is significant. The relationship of SCD and SCI is positively correlated and significant.

SC dynamism seeks to boost the intensity of the process and ability to adapt to fast-changing consumer needs. Swafford et al. (2006) versatility between vendors and production sites helps to clarify SC agility. Chiang et al. (2012) defined a firm's SC agility as: "the capability of the firm, internally, and in conjunction with its key suppliers and customers, to adapt or respond in a speedy manner to a changing marketplace, contributing to agility of the extended SC".

H2: There is a relationship between SCI and SC performance.

Table 4: SCI & SCP

		SCI	SCP
SCI	Pearson Correlation	1	.409**
	Sig. (2-tailed)		.000
	N	300	300
SCP	Pearson Correlation	.409**	1
	Sig. (2-tailed)	.000	
	N	300	300

** . Correlation is significant at the 0.01 level (2-tailed).

As shown in table 4, Pearson correlation was applied for assessing of relationship of SCI and SCP. The value of $r=0.409$ represent positive relationship between both variables. The value of $p=.000$ show that relationship between both variables is significant. The relationship of SCD and SCP is moderating and significant. Frohlich and Westbrook (2001) concluded that "integrative practices and a high level of integration have a positive impact on corporate and SC performance". Atnafu, (2015) stated that positively effect of SCI on an operational performance. Effective SCI leads directly to a higher performance.

H3: There is a relationship between SC dynamism and SCI.

Table 5: SCD & SCI

		SCD	SCI
SCD	Pearson Correlation	1	.629**
	Sig. (2-tailed)		.000
	N	300	300

SCI	Pearson Correlation	.629**	1
	Sig. (2-tailed)	.000	
	N	300	300

** . Correlation is significant at the 0.01 level (2-tailed).

As shown in table 5, Pearson correlation was applied for assessing of relationship of SCD and SCI. The value of $r=.629^{**}$ represent strong relationship between both variables. The value of $p=.000$ show that relationship between both variables is significant. The relationship of SCD and SCI is strong and significant.

H4: SCI mediates the relationship SCD and SC performance

Table 6: Meditation of SCI

Outcome: SCI

Model Summary

R	R-sq	MSE	F	df1	df2	p
.6294	.3962	.2101	229.1162	1.0000	298.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
Constant	.6452	.0907	7.1137	.0000	.4667	.8237
SCD	.6629	.0438	15.1366	.0000	.5767	.7491

Outcome: SCP

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4113	.3692	.3616	20.5671	2.0000	297.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.9383	.1429	6.5640	.0000	.6570	1.2196
SCI	.4982	.0957	5.2043	.0000	.3098	.6866
SCD	-.0699	.0855	-.8172	.4145	-.2381	.0984

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
SCI	.3303	.0743	.1848	.4749

The table shows the regression analysis that is used for the findings of mediation effects of SCI on SCD on SCP. Results indicated that SCI was a significant predictor of SCD ($B = .663$, $SE = .043$, $p < .00$), and that SCI was a significant predictor of SCP, $B = .498$, $SE = .095$, $p < .00$. These results support the meditational hypothesis. SCD was no longer a significant predictor of SCP after controlling for the mediator, SCI, $B = -.06$, $SE = .085$, $p > .05$. Approximately 37% of the variance in SCP was accounted for by the predictors ($R^2 = .37$). The indirect effect was tested using a percentile bootstrap estimation approach with 10000 samples implemented with the PROCESS macro Version 3.3. These results indicated the indirect coefficient was significant, $B = .330$, $SE = .073$, $CI = .1848$, $.4749$. SCD was associated with SCP that were approximately .33 points higher as mediated by SCI.

DISCUSSION & CONCLUSION

Organizations need to integrate their goals and activities together in order to leverage the supply chain at the most intense efficiency stage. In order to ensure comparative edge, supply chain

stakeholders need to focus on various components: cost negotiation to maximize benefit, and financial partnership activities to encourage creative product design. In the expectation of creating supply chain responsiveness and strategic edge for the enterprise, today's market rivalry is shifting from within companies to between supply chain partners and organizations are gradually embracing SCI. The study has shown that different forms of supply chain incorporation are being pursued by all state companies. The results show that integration of the supply is an efficient means of competing, and the adoption of integration of the supply chain has a strong effect on the company's supply chain efficiency. SCI has proved to be a crucial success driver for the supply chain and production of a business. This study is also very important because previously conducted studies investigate the relationship of SCD with other variables or without the influence of SCI and also in different geographical difference. This study also finds the influence of SCD on SCI and SCP. The data was collected from textile industry for investigation of relationship of variables and their influences.

The finding of the study shows that SCD and SCP are positively correlated and SCD have direct impact on SCP. The ($r=0.221$, $p=0.00$) is indicated that the relationship between both variable is weak because the value of $r < 0.30$ show that the weak relationship exist between two variables. So the hypothesis 1 is supported and SCD have significant relation on SCP. Previous studies also support the result of this study Wang, Tai, & Wei (2006) SC capabilities have achieved greater competitive advantage in terms of IT enabling integration, responsiveness and flexibility. According to hypothesis two SCI is positively correlated with SCP. The ($r=0.409$, $p=0.00$) explain that both variables are significantly correlated. The SCI is moderately correlated with SCP because the value is $r > 0.30$ but $r < 0.5$. Previous study of Flynn, Huo and Zhao (2010) also supported that the result of current study. The third hypothesis describe that SCD and SCI are correlated. The resulted of the study show ($r=0.629^{**}$, $p=0.00$) that both variables have strongly positive correlated. The value of $r > 0.50$ show that both have string relationship. The study of Svahn and Westerlund, (2007) is the supporting the result of the current research. Mediation hypothesis is also supported because value of $p=0.00$ indicated the significantly impact of the variable. The result shows that SCI mediate the relationship and $R^2=37\%$ is considering good effects. Phana, Doanb and Nguyenc (2019) supported the result of the study that SCI mediating the relationship between SCP.

The primary aim of this research was to understand the role of SCD and SCI in Pakistan's manufacturing industry. In addition, the study examines the integration, dynamism and performance of the organization, which are derived from the complex capabilities of the manufacturing supply chain. As a result, many implications have arisen from the analysis. These implications divided into theoretical and managerial consequences. The study's basic additions to theory have been explicitly discussed.

Theoretical Contributions

This research offers a systematic analysis of mediating effects of SCI and its relationship with SCD and SCP. Further, this study is a contribution to fill the existing gap in the literature. This research has separated from two disordered literatures (e.g. SCD's effects on SCP and SCI effects on SCP) by combining all systems of analysis and demonstrating SCD's effects on SCP by SCI's mediation effects. The integrated perspective gives a deeper understanding of how SCD, SCI and SCP contribute to one another. The functions of SCD are exposed to disclose the potential means of

correcting SCP. This knowledge is significant because it plays a role in the increasingly globalized existence of firms.

Managerial Contributions

Considering both scholars and professionals' viewpoints, the study has many consequences. As for management, this analysis mainly takes place because of the manager's benefit. As integration involves a focus on team-work, information exchanging, collaborative thinking and problem solving, engagement mostly occurs between human actors -managers- in the firm, and integration is focused on experience and understanding mechanisms and is mostly between managers and knowledge-sharers. Therefore, it is necessary for employers and workers to work towards convergence and enhance the performance of their businesses.

Limitations & Future Studies

Despite the various contributions to SCM domains, the research has limitations. The research only focuses on Pakistan samples, so the generalization of results should be limited. Future research is important to determine the effect if separate or several countries. In this analysis, determine the direct impact of SCD on SCP. In future, SCD can be used as moderator. In this research analyzed the mediation effects of SCI on SCP. In future effect of different dimension SCI on SCP is still investigable. For analysis of this study data was collected from textile industry. Further this study can be conducted in different manufacturing industries like automobiles, food or service industry.

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