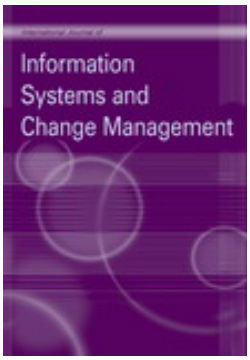

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Enabling agility capabilities into supply chains: an examination of agility dimensions on firm performance with mediation of supply chain performance

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Enabling agility capabilities into supply chains: an examination of agility dimensions on firm performance with mediation of supply chain performance

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Abstract: Supply chain agility is a crucial capability that enables organisations to respond promptly to market changes, customer demands, and disruptions. It helps to optimise operations, reduce lead times, enhance customer satisfaction, and maintain a competitive edge in dynamic business environments. This study attempts to uncover the relationships among supply chain agility dimensions (SCAD) (i.e., alertness, accessibility, decisiveness, swiftness, and flexibility), supply chain performance (SCP), and firm performance (FP) in the context of China based on resource-based view (RBV) theory and practices. Using a sample size of 759, we calculated the results based on SmartPLS. First, results indicated a positive connection between SCAD and firm performance. Second, this study found a positive correlation between the SCAD variable and FP. Finally, the study confirmed a significant mediation of SCP between SCADs and FP. Furthermore, the study enlists fruitful suggestions for the organisations along with theoretical and managerial implications for the management.

Keywords: supply chain agility; SCP; supply chain performance; firm performance; SEM; structure equation modelling.

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1 Introduction

The ability of supply chains to react swiftly as well as successfully make the market able to shifts in such a business environment that have agility capability into supply chain operations (Fayezi et al., 2017). It covers the supply chain's ability to adjust and be

flexible in the face of disruptions as well as unforeseen circumstances (Agarwal et al., 2006). The capacity to collect and estimate real-time data that eventually permits informed decision-making for the aim of quick action (Fayezi et al., 2017). Similarly, organisations can improve customer satisfaction and can gain a competitive edge by putting agile practices such as dynamic inventory management, cooperative partnerships, and streamlined processes. It is stated by the researchers that bringing agility in various operation such into supply chain is direly needed in the present era of competition (Gligor and Holcomb, 2012). Supply chain agility capabilities help the organisations to promote innovation that additionally support to launch the new idea regarding product. Indeed, agility dimensions support the organisations to stay ahead by grasping maximum opportunities from existing market (Gligor and Holcomb, 2012). Supply chain performance (SCP) could be achieved by effectively focusing on agility dimensions for supply chain as reported by several researchers in the past (Gligor and Holcomb, 2012; Tse et al., 2016). It is believed that consumer demand and preferences change over time whereby bringing agility dimensions into supply chain may better fulfil their demands (Naughton et al., 2020). It is also advocated that organisations can better forecast consumers' demand, manage inventory level, and manage supply chain operation by focusing on supply chain agility (Tse et al., 2016). The capacity to immediately adapt and flexibly to allocate resources may enable businesses to reduce bottlenecks, decrease lead times, and enhance operational efficiency (Patel and Sambasivan, 2022). SCA advances helpful collaboration and interaction among partners in the supply chain by facilitating seamless coordination and processes (Gilal et al., 2016).

Supply chain performance explains the measurement and evaluation of the efficiency and effectiveness of a supply chain's operations by meeting its objectives and delivering value to various stakeholders (Arzu Akyuz and Erman Erkan, 2010; Khan and Pillania, 2008). It involves various major performance indicators that discuss various aspects of the supply chain such as cost, speed, flexibility, satisfaction, and sustainability. SCP estimation typically involves investigating metrics like on-time delivery, inventory turnover, order fulfilment rates, lead times, cycle times, productivity, accuracy, and overall profitability. However, firm performance indicates the assessment and measurement of an organisation's overall success. It contains innumerable financial and non-financial indicators which include revenue, profit margins, market share, customer satisfaction, innovation, and shareholder value to evaluate the company's effectiveness.

Supply chain management has a paramount significance in China owing to its essentiality as a global manufacturer (Janamanchi and Burns, 2007; Paulraj et al., 2006). It is suggested that effective supply chain management (SCM) enables businesses to optimise sourcing, production, and distribution processes by ensuring cost efficiency as well as timely delivery (Stadtler, 2014). Studying SCP and FP is crucial for several reasons. First, understanding SCP allows businesses to identify bottlenecks, inefficiencies, and areas for improvement within their supply chain operations (Pyke et al., 2000). This enables cost optimisation, enhanced customer service, and streamlined processes. Second, analysing firm performance provides insights into the overall financial health, profitability, and competitiveness of the organisation. By studying both SCP and FP, businesses can align their strategies, make data-driven decisions, drive operational excellence, and ultimately achieve sustainable growth and a competitive advantage in the market. Therefore, we currently attempt to uncover the nexus among supply chain agility

dimensions (SCAD), SCP, and firm performance (FP) from the Chinese market based on the following research objectives.

The foremost thing is that this review unveils the collective impact of SCAD i.e., alertness, accessibility, decisiveness, swiftness, and flexibility on firm performance (FP). Secondly, the main concern is to expose the relation between SCAD and SCP. Thirdly, this analysis tries to unfold the meditating connection between SCAD and FP through SCP, Theoretical structure and hypothesis about SCAD, SCP, and FP have been discussed in this study. In the second place, it throws light on the different aspects of analysis such as sampling procedure, collection procedure, and analysis procedure. Discussion and implications about the concerned study are presented as well. The concluding part is based on certain limitations and prospects for researchers around the globe.

2 Literature review

The resource-based view (RBV) is a management theory that emphasises the importance of a firm's unique resources and capabilities in achieving sustained competitive advantage (Arend and Lévesque, 2010; Colbert, 2004).

RBV theory supports managing both tangible and intangible resources of the organisations to achieve success in the competitive market (Arend and Lévesque, 2010). This theory such as RBV encourages the organisational management to determine, develop, and enhance resources in order to achieve the level of competiveness for mainlining long run relationships with stakeholders like consumers (Colbert, 2004). This theory encourages the authors of the world to conduct additional studies including empirical research to uncover the insights into supply chain agility from other perspectives of the world (Colbert, 2004). This theory also support to unfold the relationships among various capabilities of the organisations (Barney and Mackey, 2016). Therefore, by understanding the importance of the agility with respect to supply chain, we assuming certain directions to empirical explore the directions among supply chain agility, firm performance, and SCP using the following hypothesis.

2.1 Supply chain agility dimensions (SCAD) and firm performance (FP)

According the various researchers, there is a positive relationship between supply chain agility and firm performance (Chan et al., 2017). An increase in supply chain agility (i.e., flexibility, responsiveness, and adaptability) can lead to improved firm performance (Wang and Cheng, 2014). By enhancing agility, organisations can effectively respond to market changes, reduce lead times, optimise inventory management, and enhance customer satisfaction, resulting in increased sales, profitability, and market share (Swafford et al., 2008). Higher operational agility can succeed through streamlined processes, efficient resource allocation, and quick decision-making, which can positively impact FP (DeGroote and Marx, 2013). It is also advocated that improved operational agility enables faster production cycles, better cost management, reduced waste, and enhanced productivity, leading to increased efficiency and profitability (Gligor and Holcomb, 2012). Supply chain flexibility allows organisations to adjust production levels, product mix, and distribution strategies efficiently (Cao et al., 2009). RBV encourages researchers to explore the linkages between SCAD and firm-specific

resources, and how they create value, sustain competitive advantage, and drive superior performance (Arend and Lévesque, 2010). This theoretical perspective guides researchers in identifying the critical resources and capabilities that enable firms to effectively implement and leverage SCADs (Barney and Mackey, 2016). However, several studies were conducted work on different perspectives of SCAD and FP from various domains and perspectives (Alam et al., 2019; Colbert, 2004; Nazempour et al., 2020; Zakir et al., 2022). Based on the massive significance of supply chain agility and firm performance, we currently assume the following propositions to empirically validate the outcomes from China.

H1: Supply chain agility dimensions are positively correlated to FP.

2.2 Supply chain agility dimensions (SCAD) and supply chain performance (SCP)

According to researchers, SCAD can positively impact various aspects of SCP. A more responsive supply chain can minimise lead times, reduce stockouts, and improve order fulfilment rates, resulting in higher customer satisfaction and increased SCP (Eckstein et al., 2015).

It is reported that flexibility is one of the important factor of agility which has a significant connection with SCP (Gligor et al., 2015). This dimension of supply chain encourages the organisations to quickly respond the demand of the consumers which often fluctuate. It is concluded by the scholars that productive collaboration help to improve the communication, trust, and coordination between organisations and consumers that eventually support to minimise lead time and improve product flow (Dehgani and Navimipour, 2019). It is additionally reported that visibility of the information in supply chain may positive impact SCP of the organisations (Dehgani and Navimipour, 2019). On the other hand, the theory of RBV also support the researcher to conduction more research from different domain and perspective of the world such as conducting research on supply chai performance would another unique contribution (Arend and Lévesque, 2010). Organisations can better improve SCP by highlight focusing on SCAD (Colbert, 2004). Therefore, it suggested to carry out more work on this domain for adding more information in the field of supply chain management with respect to SCP (Barney and Mackey, 2016; Colbert, 2004). Hence, with consideration of supporting argument of the theory such as RBV and bringing forward hypothesised relationships, we attempts to uncover the following relationships from the market of China based on empirical analysis.

H2: Supply chain agility dimensions are positively correlated with SCP.

2.3 Mediation of supply chain performance (SCP)

SCP can positively impact various aspects of overall firm performance (Arzu Akyuz and Erman Erkan, 2010; Stadtler, 2014; Zhu et al., 2016). For instance, it is revealed that SCP could be characterised by efficient inventory management, streamlined processes, and optimised logistics, which can lead to improved cost efficiency for the firm (Beamon, 1999). By reducing costs associated with inventory holding, transportation, and operational inefficiencies, firms can achieve higher profitability and improved financial

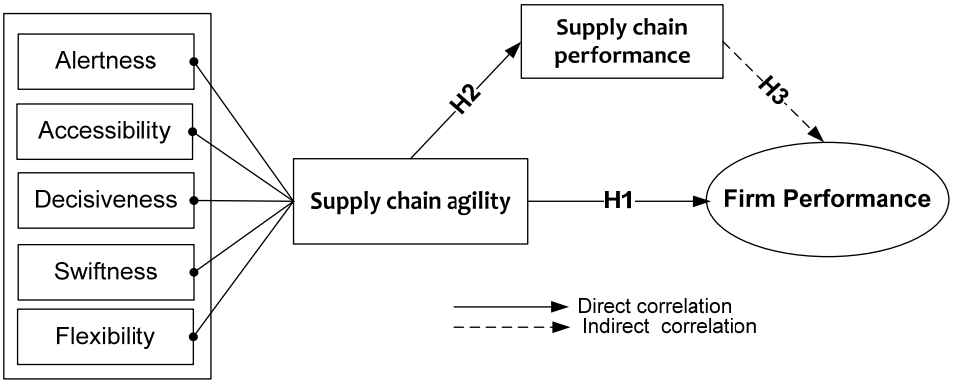
performance (Wagner et al., 2012). It is advocated that superior SCP, including on-time delivery, order accuracy, and responsiveness to customer needs, can positively influence customer satisfaction (Yu et al., 2013). Undeniably, satisfied customers are more likely to become repeat buyers, recommend the firm to others, and contribute to increased sales and market share (Yu et al., 2013). SCP can facilitate innovation within the firm (Li et al., 2006).

SCP can serve as a mediating factor between SCADs and FP (Qrunfleh and Tarafdar, 2014). It is advocated that supply chain agility positively influences SCP (Naughton et al., 2020). Organisations with higher agility, characterised by responsiveness, flexibility, collaboration, and information visibility, can achieve improved SCP metrics, i.e., reduced lead times, enhanced operational efficiency, increased customer satisfaction, and can optimise inventory management (Gligor et al., 2015; Gligor and Holcomb, 2012; Naughton et al., 2020). In turn, improved SCP positively impacts FP, including financial indicators, market share, customer loyalty, and competitive advantage (Qrunfleh and Tarafdar, 2014). This mediation hypothesis suggests that SCADs indirectly affect firm performance through their impact on SCP (Qrunfleh and Tarafdar, 2014; Zakir et al., 2022). Empirical research within the Chinese market of China is needed to validate and analyse the specific mediating effects in different industry contexts and firm configurations. Therefore, based on the massive significance of SCAD in terms of SCP and firm performance (FP), we currently assume the following propositions to empirically validate the outcomes from China.

H3: SCP mediates the relationship between supply chain agility dimensions and FP.

Finally, based on the above hypothesised relationships, the summary of the hypothesis and directions is shown in Figure 1.

Figure 1 Research model



3 Methods

3.1 Data gathering and sampling

In this study, a total of 1000 questionnaires were dispersed vigilantly to the specific supply chain managers in the marketplace of China. China is the world's most populated

country having a dynamic supply chain industry (Orleans, 2023). China's has massive network of suppliers, distributors, and logistics providers necessitates robust supply chain coordination to streamline operations and minimise disruptions (Zhu et al., 2005). By leveraging efficient supply chain practices, businesses can unlock China's immense market potential, capitalise on export opportunities, and maintain a competitive edge in the global marketplace (Pyke et al., 2000). Therefore, it is worth mentioning to conduct additional studies based on the Chinese market to provide more empirical evidence from such a huge market. On account of the data collection process, some techniques were utilised like Online distribution through WeChat, and emails, and some individual meetings were utilised with the Chinese coworkers' assistance. Presently, a marketplace of China is under observation to have further empirical evidence to judge the specific role SCAD. In total, 759 documents were accepted for data analysis after having an evaluation and scrutiny of partially filled details and some other grave issues like deficient feedback only for realising valid responses. The seven-point Likert scale was utilised mainly after getting inspiration from already published research by scholars. (Mehmood et al., 2019; Shahid et al., 2022; Younas et al., 2017). In addition to it, the core investigation comprises 22 statements whereas profiles of respondents were tackled utilising five characteristics (see Table 1).

Table 1 Descriptive findings ($N = 759$)

	Male		*Female*	
	Freq.	*Percentage (%)*	*Freq.*	*Percentage (%)*
Gender	465	61.26	294	38.74
Qualification				
Bachelor	102	21.94	040	13.61
Master	167	35.91	095	32.31
PhD	111	23.87	068	23.13
Others	085	18.28	091	30.95
Age in years				
17–20	065	13.98	057	19.39
21–23	195	41.94	085	28.91
24–27	145	31.18	082	27.89
>28	060	12.90	070	23.81
Work experience in years				
<3 years	055	11.83	035	11.90
4–8 years	190	40.86	095	32.31
9–13 years	160	34.41	088	29.93
>14 years	060	12.90	076	25.85

3.2 Pilot analysis

Moreover, it is quite significant to perform pilot testing prior to carrying out a study on a greater level to get a superior and outstanding outcome. A sum of 45 ($n = 45$) opinion

polls was utilised for this aim and its product is judged on behalf of the Statisticians' approved method (Black and Babin, 2019). The current outcomes after applying the Cronbach alpha technique are normal where SCAD is at 0.745, SCP set at 0.745, and FP positioned at 0.748 in that order. According to researchers, the values of Cronbach alpha must be higher than 0.7 (Heo et al., 2015).

3.3 Measures

Supply chain agility variable (SCAD) is as an independent measure, SCP is used as an intervening variable, and firm performance (FP) is the dependent variable. First, SCAD was accessed using 5-items such as swiftness, flexibility, decisiveness, alertness, and accessibility as adopted from the past study (Gligor et al., 2015). Second, SCP was measured using 11 items taking an operational perspective, as adopted by (Gunasekaran et al., 2001). Third, FP was measured through sales performance and using 6-item adopted from (Ingram et al., 1991).

3.4 Analysis tools and techniques

For analysis, the core details of participants' profiles and descriptive statistics were utilised at first. Secondly, to know the interconnections within variables of the survey, a correlation technique was employed. Thirdly, discriminant validity was examined and judged on behalf of two methodological techniques Fornell and Larcker and HTMT methods (Fornell and Larcker, 1981). In the same way convergent validity technique was utilised according to per proposed scheme as AVEs, loadings, and reliability evaluation (Hair et al., 2019). Structure equation modelling (SEM) was applied by utilising SmartPLS software to verify the directional correlation within the variables (Nabila et al., 2023). It is very crucial to find out the values of NIF and SRMR to affirm the genuineness of the model (Hu and Bentler, 1999). For Example, values ought to be within –1 to +1 in Pearson testing (Cohen et al., 2009), loading and AVEs product values ought to be lesser than 0.5 (Hu and Bentler, 1999), Reliability values must be greater than 0.7 (Hair, 2011), in HTMT (Henseler et al., 2015) values must lower than 0.9, the results of square roots of AVEs must greater than the succeeding interconnections in discriminant validity (Henseler et al., 2015), values must greater than 0.9 in NFI (Hu and Bentler, 1999) and lastly the residue of SRMR ought to be lesser than 0.08 (Hu and Bentler, 1999).

4 Results

4.1 Validity and reliability

The values of validity and reliability with other details of means and standard deviation have been illustrated below in Table 2. According to preceding reports, the loadings and AVEs ought to be smaller than 0.5, and the reliability ratio must be greater than 0.7 (Hair et al., 2019).

Table 2 Validity process

Items	*Mean value*	*SD*	*Loadings*	*AVE*	*Reliability*
Supply chain agility dimensions (*SCAD*)				0.684	0.801
SCAD-1	4.982	1.351	0.555		
SCAD-3	5.134	1.021	0.634		
SCAD-4	4.982	1.540	0.633		
SCAD-5	5.134	1.351	0.555		
SCAD-6	4.982	1.021	0.634		
Supply chain performance (*SCP*)				0.742	0.800
SCP-1	4.982	1.351	0.555		
SCP-2	5.134	1.021	0.634		
SCP-3	4.982	1.540	0.633		
SCP-4	5.134	1.351	0.555		
SCP-6	5.134	1.540	0.633		
SCP-7	4.982	1.351	0.555		
SCP-8	5.134	1.021	0.634		
SCP-9	4.982	1.540	0.633		
SCP-10	4.982	1.351	0.555		
SCP-11	5.134	1.021	0.634		
Firm performance (*FP*)				0.658	0.822
FP-1	4.982	1.540	0.633		
FP-2	5.134	1.351	0.555		
FP-3	4.982	1.021	0.633		
FP-4	5.134	1.351	0.555		
FP-5	4.982	1.021	0.634		

*Items removed having <0.5 AVEs and loadings and FP-6, SCP-5.

4.2 Analysis of Pearson's correlation

Table 3 illustrates the findings of correlation analysis to confirm the connections within the proposed variables of this analysis. The values ought to be within –1 to +1 while negative values confirm a negative link, smaller values confirm a smaller link and greater values declare a greater link (e.g., Fornell and Larcker, 1981; Hair et al., 2019; Kline, 2005). The illustration of the results is as follows.

Table 3 Analysis of Pearson correlation

	SCAD	*SCP*	*FP*
SCAD	1.00		
SCP	0.235	1.00	
FP	0.322	0.385	1.00

Values should be between –1 to +1 in Pearson testing.

SCAD: supply chain agility dimensions; SCP: supply chain performance; FP: firm performance.

4.3 Model of discriminant validity

Discriminant analysis values utilised for dataset validation have been demonstrated in the following Table 4. Specific methods for this analysis have been declared by the scholars. For instance, the square root product of AVEs must be greater than the succeeding interconnections in discriminant validity (Fornell and Lacker, 2001). In the initial line of every column, the bold values express the square root of AVEs, and the interconnection of the latent variables is shown in non-bold values.

Table 4 Discriminant validity

	SCAD	*SCP*	*FP*
SCAD	**0.821**		
SCP	0.225	**0.877**	
FP	0.147	0.112	**0.787**

Bold are AVEs square roots and other are interrelationships.

SCAD: supply chain agility dimensions; SCP: supply chain performance; FP: firm performance.

4.4 Heterotrait–monotrait (HTMT)

Alongside the Fornell and Lacker (2001) technique, HTMT analysis is also utilised to confirm the validity of data by taking into view all the semblances. Through Henseler et al.'s proposal (2015), values ought to be smaller than 0.9 in the HTMT survey. Hence, the current outcomes proved the HTMT validity in a database on the succeeding precision of results as shown in Table 5.

Table 5 HTMT

	SCAD	*SCP*	*FP*
SCAD			
SCP	0.336		
FP	0.288	0.547	

Values should be <0.9.

SCAD: supply chain agility dimensions; SCP: supply chain performance; FP: firm performance.

4.5 Path relationships using SEM

Table 6 illustrates the instructions for the main pathways that were judged on beta values by the SEM model. It is suggested that NFI and SRMR ought to be monitored to know and scrutinise the validity of the SEM model. For instance, NFI value must be greater than 0.9 and SRMR must be smaller than 0.08 (Hu and Bentler, 1999). The existing values are considered the suitable recommended values where NFI and SRMR are set at 0.911 and 0.0321, respectively.

Table 6 SEM model results

Paths	*ES*	*Direct*	*Indirect*	*Sig,*	*Hypothesis*
H1: SCAD→FP	±	0.452***	–	0.000	Accepted
H2: SCAD→SCP	±	0.228***	–	0.000	Accepted
H3: SCAD→SCP→FP	±	–	0.166***	0.001	Accepted

***$p < 0.05$

NFI = 0.911; SRMR = 0.0321.

5 Discussion and implications

A sum of three hypotheses has been suggested to judge the nexus of SCAD, SCP, and firm performance (FP). First, it was assumed in H1 that SCADs are positively linked with FP. The results after SEM implementation have shown a positive connection between SCAD and FP at ($\beta = 0.452$; 0.000). Based on such calculations and findings, H1 is accepted. In addition, the outcomes support past studies in which experts suggested a positive connection between SCAD and FP from numerous perspectives, worldwide (Cadden et al., 2022; Chan et al., 2017; Fayezi et al., 2017; Gligor et al., 2015; Gunasekaran et al., 2001; Li et al., 2006; Naughton et al., 2020). Second. it was assumed in H2 that SCADs have a relationship with SCP. The results after SEM implementation have shown a positive connection between SCAD and SCP at ($\beta = 0.228$; 0.000). Based on such calculations and findings, H2 is accepted, which affirms that SCAD has a positive influence on SCP. In addition, the outcomes support past studies in which experts suggested a positive connection of SCAD in terms of SCP from numerous perspectives, worldwide (Abdallah et al., 2021; Arzu Akyuz and Erman Erkan, 2010; Cadden et al., 2022; Dhaigude and Kapoor, 2017; Jafari et al., 2023; Gligor, 2014; Naughton et al., 2020). Finally, it was assumed in H3 that SCADs were positively corrected with FP through the mediation of SCP. The results after SEM implementation have shown a positive mediation connection of SCP between SCADs and FP at ($\beta = 0.166$; 0.000). Based on such calculations and findings, H3 is accepted. The outcomes are supporting past studies where experts suggested a positive connection between SCAD and FP from numerous perspectives, worldwide (Abdallah et al., 2021; Abdelilah et al., 2023; Ghaderi et al., 2023; Rashid et al., 2022; Waqas et al., 2023).

6 Implications

Theoretically, this work adds to the body of literature on SCAD, SCP, and firm performance (FP). SCAD is crucial in today's dynamic business environment. This study suggest the organisation to quickly responds the consumers need which is possible by bringing agility dimensions into practices. It is suggested that supply chain can enhance operation effectiveness, minimise risks, minimise costs, and can improve operational efficient of the organisations. This study adds in the literature by showing significance of SCP where agility dimensions are found as the valid predictor of SCP. This study highlights the notion of supply chain agility, SCP, and firm performance by suggesting several implications for the management as follows. For example, the management

should focus and invest to those strategies which can promote the agility dimension into supply chain operations. Therefore, it is needed to foster a culture of collaboration among district stakeholders of the organisations. Management should monitor the trend of the market and should analysis the factors that may affect supply chain operation to better tackle the uncertainties and risk factors.

It is important to know that effective communication along with data analytics and planning are critical for the decision-making regarding supply chain management. Therefore, management must shape those plans, determine alternative sourcing options, and should implement agile inventory management capabilities. Moreover, supply chain managers are advised to establish a long term relationships with stakeholder particularly with consumers who are known as the most important stakeholders for the organisations. Likewise, management should embrace agility dimensions to tackle uncertainties, grab opportunities, and to effectively drive the success. Moreover, by emphasising of the agile supply chain, managers may better augment the operational efficiency and can improve productivity which eventually enhance firm performance. Organisations and concerned managers are advices to prioritise investments evolving technologies to better enable the management how to face and tackle uncertainties. Managers should develop a culture of innovation and collaboration by promoting cross-functional teams for better and productive decision-making regarding supply chain management to optimise SCP and firm performance. Finally, managers must incorporate all the dimensions of supply chain agility for better satisfying the consumers' need along with optimising SCP. Notable, importing SCP may optimise firm performance therefore both are important domain to focus and to win over the market.

7 Conclusion

It is summarised that SCAD is an essential driver of both SCP and FP. Hence, by adopting agile practices, organisations can augment operational efficiency, decrease costs, and act effectively to market modifications that ultimately lead to improved SCP. SCAD, SCP, and FP are interconnected and play decisive roles in the accomplishment of the organisations. It is also conduced that by embedding agility into practices, organisations can heighten inventory levels as well as can reduce lead time. It also enhances SCP by ensuring timely delivery, cost savings, and streamlined processes. The synergy between SCAD, SCP, and FP is undeniable. Organisations that prioritise and optimise these aspects create a virtuous cycle of efficiency, customer satisfaction, and profitability. The researchers should conduct more insightful studies on such themes to yield additional empirical evidence from China or from other regions of the world.

7.1 Limitations and future research avenues

This study contains limitations therefore upcoming scholars may consider these shortcomings to understand well about SCAD, SCP, and FP. First, a confined sample size hinders its generalisation. In second place, solely single progressing country, i.e., China was selected for study. Thirdly, not a single moderation variable within the association was considered. During data collection, this survey centred on three provinces of China therefore rest of the provinces could be focused on future research. On a priority basis at first, longitudinal investigation can propose keeping an elevated sample size in the

Chinese market and other nations around the globe. Upcoming analysis might be elevated with certain contemplation of moderating factors to confirm the connection strength within SCAD, SCP, and FP. SCAD has been utilised in this analysis as a cumulative variable consequently all the sub-dimensions might be tested to explore multidirectional analysis of each factor to provide more clear evidence on such a theme.

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