

Supply Chain Collaboration and their Impact on Firm Performance: An Empirical Study

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ABSTRACT- The purpose of this paper is to conceptualize the dimensions of supply chain management practices and their impact on firm performances. In this empirical paper, business competitiveness of the service provider's logistics companies comprises facets relating to quality and delivery of their products to the customers. Besides, as far as faster product delivery to the customers is concerned, this can be ascribed to the extensive sales and distribution networks established by the top twenty service provider's logistics companies in Indonesia. The methodology of this study depends on the Meta-analysis, whereby the results reveal a positive effect of supply chain management practices, as viewed by the respondents of the service provider's logistics companies on business performance. Such positive effects of supply chain management practices on both business competitiveness and customer satisfaction are validated by prior studies as well, who observe that when activities are performed in sync with both suppliers and customers, it would significantly leverage firm business competencies as well as customer satisfaction. This also finds the echo in the study arguing that a long-term collaborative relationship with suppliers facilitate in garnering positive results in an array of activities as reflected in superior product quality, diminished length of lead time, prompt customer service.

Keywords: Supply chain, Management practices, Customer satisfaction, Logistics companies, Business performance

1. INTRODUCTION

Owing to the fact that supply chain management practices are a key to firm performance, this discipline has attracted a great deal of interest among academicians and practitioners alike over the past two decades [50] [21] [71].

In particular, in this era of globalisation, how firms garner competitive advantages while coping with different challenges, both domestic and international, has consumed a considerable amount of attention [38] [70]. As effective supply chain

management provides benefits that transcend across the entities on both upstream and downstream sides, firms realise the potential of integrating their external supplier-firm-customer relationships and internal operational practices intending to enhance their level of competitiveness and performance as well as customer satisfaction [56] [76]. A prior study conducted by Harrison and New [33] corroborates this view, where 90 percent of the respondents consider supply chain performance as the key to gaining and enduring competitive advantage. A sound understanding of supply chain management practices thus assumes utmost importance in coping with the global competition and sustained profitability [59] [49].

Defined as a set of activities performed in an organisation, supply chain management practices have been captured by different authors in various dimensions. In their study, Tan *et al.* [69] emphasize the role of purchasing practices, quality and customer relations that impact on the effectiveness of supply chain management practices subsequently, they identify six aspects of supply chain management practices, namely, supply chain characteristics, supply chain integration, sharing of information, managing customer service, geographical proximity and just-in-time (JIT) capability. On the other hand, Chen and Paulraj [16] focus more on a long-term relationship, communication, cross-functional teams, supplier involvement and base reduction in measuring buyer-supplier relationships. This view is embraced by Min and Mentzer (2004), who incorporate the attributes of agreed vision and goals as well as risk and award sharing in defining the concept of supply chain management apart from those of information sharing, process integration and long-term relationship as mentioned in the preceding studies. In their study, Li *et al.* [46] also consider information quality as one of the dimensions, apart from the others mentioned above.

2. LITERATURE REVIEW

For an effective supply chain management, a few studies pay attention to improving operational efficiencies through the usage of inter-organizational systems, such as EDI, reducing

surplus inventory levels [4] Aslam et al., 2018), cycle time compression and uninterrupted process flow [22]. While the former emphasises the value of sharing core competencies, the latter views outsourcing as an essential component of supply chain management practices. Besides, there are a growing number of studies done relating to the impact of IT diffusion on supply chain performance.

As there is a lack of consensus on a set of constructs that define the supply chain management practices, an appropriate way to present them is to logically group them into two broad categories: the 'soft' people-oriented constructs relating to social relationships such as organizational culture, leadership, intra and inter-organizational rapport and the 'hard' system-focused constructs addressing the technological and infrastructural issues such as information system, logistics, lean practices [12] [20] [59] [39].

A meta-analysis (Table 1) carried out on the supply chain management practices reveals an overwhelming majority concerning soft issues like collaboration and information sharing, and hard aspects like logistics and information technology that are so widely considered in prior studies. However, compared to these, there is a relative lack of intra-organizational issues, such as top management commitment, training, communication, participation that are deemed vital in reaping the benefits of supply chain management practices. Thus having taken cognizance of such apparent dearth of convergence on a standard set of supply chain management constructs, as well as the soft issues crucial to SC effectiveness and yet to be adequately explored, the current research considers the following dimensions of supply chain management practices, incorporating both soft, {(i) and (ii)} and hard aspects, {(iii) and (iv)} as presented below:

- (i) Collaboration (and information sharing) with suppliers and customers
- (ii) Intra-organizational practices (top management commitment, training)
- (iii) Logistics, lean and quality practices
- (iv) IT infrastructure

2.1 Collaborative Relationship with Suppliers and Customers

Supply chain integration comprises a set of firm's activities tailored to foster its relationships with suppliers and customers; these are designed to harmonise supply chain activities with suppliers on the upstream side and enhance customer satisfaction on the downstream side through offering superior products [57]. In this regard, it is pertinent to observe the impact among the supply chain parties of information sharing that would significantly strengthen both intra and inter-

organizational integration [51] and be the key to a seamless supply chain [45] [76] this would be reflected in various ways, such as, diminished bull-whip effect as well as lower production and inventory costs, etc. [45] [37] Raghunathan, 2003). The relevant and timely information sharing would entail aspects of various dimensions – from strategic to tactical [36] with the benefit ultimately accruing from the parties' ability in transforming that information into a supply chain strategy and superior performance [60] [49]. This concurs well with what Zailani [75] contend in their study among the supply chain managers in various Malaysian industries that besides the commitment of the leadership and trust among the partners, it is the quality of information as well as the ability of the recipients to utilize the same that holds the key to the effectiveness of operational information exchange among various supply chain channels.

2.2 Supplier Relationship

According to Chin *et al.* [17], maintaining the excellent relationship with suppliers is a critical element for a company's growth potential. It helps individual entities in a supply chain facilitate their strategic and tactical capabilities in reaping plenty of rewards – now and in the future (Monczka *et al.*, 1998; Noble, [53]. Strategic partnerships forged with suppliers requires that a firm reduces its vast pool of suppliers to a few important ones, who would be keen to shoulder greater responsibility for the successful delivery of the products to the downstream entities of a supply chain [63] [46].

Prior studies reveal that effective supplier management is built upon enhanced cooperation by allowing supplier involvement and participation in both the design and production processes (Shin *et al.*, 2000; Tan, 2001b; Aslam et al., 2018). Coordinating with suppliers throughout the product lifecycle not only is a practical approach in mitigating the uncertainty of raw-material supplies [45], their involvement in the early product development stage has some critical positive offshoots as well, such as more cost-effective design choices, selection and sharing of the appropriate technologies and components, diminishing process variability and the consequent positive effect on process management [26]. Integration of operational activities through such a shared understanding with suppliers result in streamlined production reduced lead time, waste and safety stock, and superior products [74] [6].

As pointed out by Ou *et al.* [56], for a firm to produce quality products, the acquisition of high-quality raw materials and parts from its suppliers is an issue of top priority. Chandra and Kumar [15] argue that such sourcing process is critical to the viability of an efficient supply chain because it impacts directly on the cost of the

product as well as on the agility and efficiency of the supply chain. According to a study by Ghodspour and O'Brien [31], the cost of raw materials and parts accounts for a significant portion of the total cost of a product; in some industries, it can account for as high as 60% of the total cost. This would, therefore, demand for picking the right suppliers in the first place, who would deliver the companies with the necessary products, components and materials on time and ineffective manner [54] this would, in turn, yield a positive spiraling effect that would be reflected in the diminished cost of purchase, fewer quality bottlenecks and sustained corporate competitiveness [64].

2.3 Customer Relationship

According to Xu and Walton [73], a customer is a critical element in a company's downstream supply chain. Considered a crucial aspect of supply chain management practices, customer relationship comprises the broad array of methods that are put in place to develop enduring relationships with them, addressing their complaints, and meeting their satisfaction.

In an era that has witnessed the growth of mass customisation and offering of personalised services, corporate survival hinges on nurturing the long-term relationship with its customers (Wines, 1996). In their search for excellence, for creating value in their business, managers are, therefore, in an urgent need to peer beyond the organisational boundaries and forge strong relationships with their customers [24]. This will pave the way for an organisation to differentiate its product from that of its competitors, to be more responsive in fulfilling customers' demand and enjoy customer loyalty by proactively seeking their needs and requirements.

Prior studies highlight the importance of a firm's relationship with customers and its impact on the firm performance and competitive position [58] [47] [67]. As the ultimate aim of supply chain management is to deliver products to the end customers to their satisfaction, customer relevancy turns into a critical strategic imperative for the companies for reaping a lasting competitive edge [10].

2.4 Intra-organizational Practices

The collaboration and integration among various value adding activities within individual companies and across different organisations along a supply chain require significant changes in corporate culture as well as a new level of human performance. Successful implementation of supply chain management concepts largely depends on human assets of organisations [10]; Mentzer, 2004). Past behaviour such as narrow departmental

thinking undoubtedly impedes the effectiveness of supply chain management. Therefore, Gattorna [29] asserts that managing supply chain involves the interaction between human behaviour, IT and infrastructure.

An essential prerequisite for successful supply chain management is the change of corporate culture [17]; this is necessary as the prevalent culture only emphasizes organizational performance from the short-term viewpoint, which runs counter to the objectives of supply chain management to consistently achieve high performance and profitability benefitting all the entities in the supply chain (Tan *et al.*, 1998). Culture reflects the norms that pervade an organisation and mould the behaviours and attitudes deemed appropriate and expected from its employees [65]. A culture that stimulates trusting conduct, openness, inquiry and experimentation on the part of its employees will be of much benefit to supply chain members [67]. To create such an atmosphere, top management commitment, employee participation and employee training must be addressed.

2.5 Management Commitment

Ou *et al.* [56] term the management commitment as one of recognising and discharging the responsibility entrusted to the firm's outstanding management as regards to the supply chain management practices in an organisation. This would comprise in setting the aims and objectives of supply chain management, in deciding the level of effort, participation and training on their part as well as others towards its efficacy, and in their evaluation of its performance [8]. This is in concurrence with Chen and Paulraj [16], who consider the role of top management critical to spreading the organisational norms and values as well as management styles in achieving superior performance.

The role of top management leadership, as argued by Ou *et al.* [56], can hardly be overemphasised as it is instrumental in effecting and nurturing the change in the mindset of employees; this is required for enhanced operational performance culminating into effective supply chain management practices. Others share this view [19] Monczka and Morgan, 1996), who contend that the absence of top management engagement in cultivating enduring relationships with external supply chain entities as well as with internal employees vis-à-vis products and processes would pose a severe challenge in optimising supply chain benefits.

Citing the service provider's logistics company, United Laboratories Inc. as a prime example, Simes (2002) has underscored the value of embracing senior management involvement in

executing supply chain management strategy. Their commitment and attachment are, therefore, *the sine qua non* in galvanising the activities and participation of employees working in different tiers of an organisation for proper execution of supply chain management practices [2] [3] [17].

2.6 Participative Management

According to Chin *et al.* [17] (p. 510), 'participative management is a management style that actively seeks employee inputs, allowing employees to contribute to the resolution of work-related issues.' Apart from being actively involved they in crafting strategies vis-à-vis supply chain effectiveness, managers in the higher echelon of an organisation should nurture practices that would foster the participation of employees working at other levels as well. Such active participation, as observed by Oosthuizen and du Toit [55], makes employees feel empowered and enhances their commitment toward their particular work as well as towards inculcating the virtues of continual learning and teamwork.

The positive implication of employee participation in decision-making process would be reflected in cost savings and rise in productivity, apart from high employee morale in the workplace. Richardson (1985) offers the instance of a steel company, whereby a 25% decline in unit costs with an attendant increase in employee relations is attributed to the deployment of the participatory approach of firm decision-making.

2.7 Employee Training and Development

According to Harrison and New [33], to strengthen integration among various supply chain linkages, organisations should allocate sufficient endowments to cater to the training and development needs of their employees. This is in line with Gattorna and Clark [30], who advocate a similar obligation on the part of the companies for developing employee skills that would create value for various activities among supply chain partners. This finds concurrence with Ho *et al.* [35], who contend that different HRM practices, like training and development programs, impact positively on quality improvement efforts through the different usage of information flowing through organisational boundaries.

To imbue employees with a defined vision for effective supply chain management practices, people in the managerial positions should impart proper and adequate training to hone the skills of their employees. Organizations cannot derive much benefit from high information visibility if the employees are found wanting in required IT education, in deft handling of the information that resides at their disposal [44]. The training module

could focus on issues regarding the appropriate use of information, various IT-related tools, cross-functional communication that would eventually help them grow as innovative and proactive supply chain members.

2.8 Logistics Design, Lean and Quality Practices

Apart from addressing the activities vis-à-vis upstream and downstream integration, supply chain management underscores the value of the efficacy of a firm's internal practices on its performance. If the internal operations are not made seamless, efforts of integrating with the external entities of a supply chain will fall through [57]. In this regard, a firm, would, therefore, have to take into account some considerations, such as logistics design, lean and quality practices, IT infrastructure, as outlined below:

2.8.1 Logistics Design and Lean Practices

According to Towill *et al.* [72], a robust supply chain design warrants efficient flow of materials, such as raw materials, work-in-process (WIP) and/or finished goods, across its various entities. Since forecasting of the precise size or amount of inventory supply and demand poses an uphill task due to what is known as bullwhip effect, proper management of material flows remains one of the most critical success factors to an efficient supply chain strategy [17]. Therefore, a vital aspect to be dealt with concerning a firm's operational issues relates to logistics network design.

Such a network, according to Chin *et al.* [17], would address various matters vis-à-vis inventory, modes of distribution and points of destination, information and communication technologies, etc. for optimum performance of the supply chain. With such a network in place, parties would be able to trim down costs relating to purchase, production, distribution and warehousing, guaranteeing the required level of service (Simchi-Levi *et al.*, 2000). Prior empirical studies are a clear indicator in this regard, demonstrating the positive impact of integrated logistics management on a firm's operational performance [68].

In this regard, it would be worth mentioning the gains (such as high quality and throughput performance, cost savings as regards to inventory) that companies would derive through employing lean operating practices, such as JIT [27][14]. A case in point would be that of HP, which could respond to customer orders promptly and cost-effectively through flexible manufacturing and optimum design and positioning of its production and distribution facilities [25]. Thus organisations would do well in facilitating such practices when it

comes to strengthening inter-firm partnership, reducing costs and retaining customer loyalty.

2.8.2 Quality Practices

A key factor impacting on the competitiveness of a company relates to its quality practices that will translate into improved operational performance [61]. There are studies galore that serve as a testament to the linkage among quality practices, operational efficiency and competitive position of a company. Bemowski [9] offers Motorola Corporation as a prime example; due to its relentless adherence to superior quality practices, argues the author, it has been able to boost its operational efficiency and bolster its competitive position. This view is in harmony with a later study done by Leat *et al.* [43] that demonstrates that improvement in quality practices ultimately culminates into a superior competitive position of a firm. In their study, Kumar and Phrommathade [41] shed further light, arguing that if internal operations are efficiently managed, it will provide the firm with a great deal of flexibility to respond to the changes in the external environment and deliver better service quality to the customers, thereby giving it a competitive edge over its rivals.

To realise the above, Ou *et al.*, [56] assert that firms need to address the issue of design management that calls for a better understanding of the material requirement, production capacities, supplier integration and their customer needs. As they utilise standardised and fewer parts, it would simplify process complexity and reduce process variation [2] [74] [26]; this would raise quality performance, resulting into an improved operational performance.

2.9 Summary of Meta-analysis of Supply Chain Management Practices

The meta-analysis relating to supply chain management practices as carried out in this study is provided in Table 1 that incorporates a total of 94 articles. As can be observed from the table, it includes a few latest studies performed in 2012 and dates back to those carried out since 2000 with an overwhelming majority (more than 76%) of these covered from 2005 and onwards. A brief discussion on the distribution of various aspects concerning the supply chain management practices is provided at the end of the table.

Table 1: Meta-analysis of Supply Chain Management Practices

Authors (Year)	Supply Chain Management Practices	Classification by practices
Aslam et al. [76]	Global logistics, road transportation and warehousing, Mixed-integer programming	L
Mishra & Sharma [48]	SC re-engineering and 6-sigma	IS, IO, QM
[1]	SC flexibility, performance	Lean, IT, C
[5]	Supply chain relationships, social issues (trust, commitment, communication)	C, IO
Ramayah & Omar [60]	SC performance, information exchange	IS
Asree (2010)	Collaboration patterns, SC design	C, Lean
Kubde & Bansod (2010)	Collaborative planning forecasting and replenishment, information sharing	IS
Korzilius (2010)	SC bull-whip effect reduction (inventory control, demand forecasting)	JIT
Zelbst <i>et al.</i> (2010)	Technology (RFID) utilisation, information sharing, performance	IT, IS
[7]	SC technology acceptance	IT
Gallear [28]	Adoption of web-based IT	IT
[11]	SC complexity (collaboration, internal operations: MPS, lean), manufacturing performance	C, Lean
Green [32]	Logistics performance on organizational performance in SC	L
Zailani [75]	Operational information sharing, SC effectiveness	IS
Enyinda [23]	Risk management in Service provider's logistics global SC logistics	L
Yeung [74]	Strategic SC, Quality, performance	QP
Zhou & Benton [77]	SC practice, information sharing	IS
Sanders [62]	Intra-firm collaboration, Inter-organizational collaboration, IT, performance	C, IT
Petrovic-Lazarevic <i>et al.</i> [57]	Building relationships, Internal operations (automation), Information sharing, Soft issues (training)	C, L, IS, IO
[13]	SC integration and Internal operations (Lean, ERP systems)	C & Lean
Helou & Caddy [34]	System theory perspective (IT, human, organization structure)	Theoretical

C: Collaboration; IS: Information sharing; IO: Intra-organization;

L: Logistics; IT: Information technology;

SCQM: Supply chain quality management; QM: Quality management

As revealed from the Table 1, among the soft issues, collaboration (c), being the most widely studied (57%) among the various entities stands out as the key one followed by information sharing (IS), (28%). While intra-organizational issues (IO) such as top management commitment, training, trust, communication, etc., occupy overall a relatively lower space in the studies, these are gaining attraction of the researchers as evidenced from the last few years, especially, 2010 and 2011. Accordingly, all these three, i.e., collaboration, information sharing and intra-organizational issues, are chosen as the soft components concerning supply chain management practices.

On the other hand, among the hard aspects, logistics and lean practices that includes JIT appear to be the

leading issue (38%), followed IT (25%) application in supply chain management practices. Since both these practices are widely regarded by the researchers for efficient supply chain performance, these are also considered in the current study. Besides, quality issues in internal operations focusing on continuous improvement are mentioned by some authors and are thus incorporated as components of supply chain management practices in this current research work as well.

Based on the literature review as discussed above, the following conceptual framework has been formed followed by the research hypotheses.

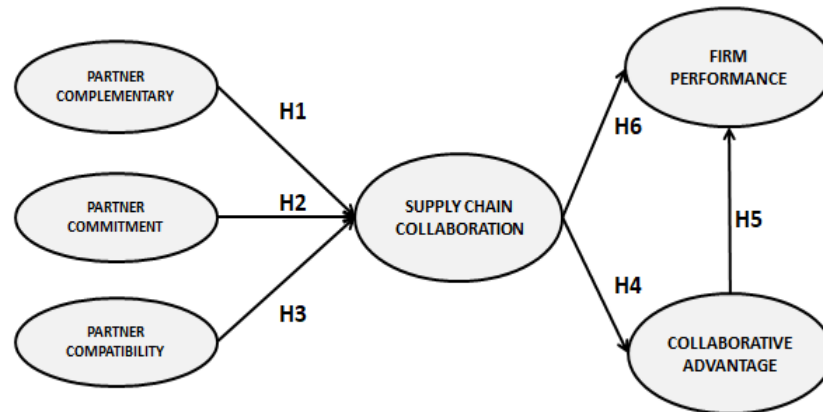


Figure 1. Research Model

Referring to the above research framework, the following hypotheses have been exhibited:

H1: Partner Complementary will have positive relationship Supply Chain Collaboration

H2: Partner Commitment will have positive relationship Supply Chain Collaboration

H3: Partner will have positive relationship Supply Chain Collaboration

H4: Supply Chain Collaboration will have positive relationship Collaborative advantage

H5: Partner Collaborative Advantage will have positive relationship Firm Performance

H6: Supply Chain Collaboration will have positive relationship Firm Performance

3. RESEARCH METHODOLOGY

In first step this study using qualitative methods (literature studies and interviews) to generate questionnaires and also analysis and writing of research results. Furthermore, the study adopted quantitative methods to test the validity and reliability of each indicator. By using SEM, the objectives of this study is measure the strength of correlation and causal relationship variable latent and explain the relationship between variables latent in the research model (Hair et al., 2006). Finally there will be a second stage interview to discuss the results of the quantitative analysis. The unit analysis is logistic service provider such as transportation, warehousing, forwarding and container depo companies that serviced export and import activities in Indonesia. Data were collected by distributing questionnaires using internet and courier to 982 logistic companies with 163 questionnaires were returned (18%). These returned questionnaires were examined, screened, and resulted 161 valid questionnaires from 151 logistic companies (sample size).

4. FINDINGS

The study reveals a positive effect of supply chain management practices, as viewed by the respondents of the service provider's logistics companies on business performance. According to Singh and Power [66], organisations would derive superior results should they be engaged in collaborative relationships with both customers and suppliers. This finds resonance in the current study as well; the endeavour on the part of the companies in forging alliances, albeit on a limited scale, with their other counterparts in the supply chain translates into enhanced customer satisfaction, culminating into improved business competitiveness. Such positive effects of supply chain management practices on both business competitiveness and customer satisfaction are validated by prior studies as well [42], who observe that when activities are performed in sync with both suppliers and customers, it would significantly leverage firm business competencies as well as customer satisfaction. This also finds an echo in the study arguing that a long-term collaborative relationship with suppliers facilitate in garnering positive results in an array of activities as reflected in superior product quality, diminished length of lead time, prompt customer service. However, the following Table shows the descriptive statistics among variable.

Table 2: Descriptive Statistics

	Mean	SD	Comp	Comm	Cpat	SSColla	CollAdv	FirmPerf
Comp	4.46	0.95	1					
Comm	4.44	0.86	0.667**	1				
Cpat	4.48	0.89	0.719**	0.853**	1			
SSColla	4.39	1.00	0.669**	0.692**	0.802**	1		
CollaAdv	4.62	1.00	0.577**	0.530**	0.579**	0.786**	1	
FirmPerf	4.36	0.84	0.521**	0.497**	0.526**	0.581**	0.573**	1

In this study, business competitiveness of the service provider's logistics companies comprises facets relating to quality and delivery of their products to the customers. Besides, as far as faster product delivery to the customers is concerned, this can be ascribed to the extensive

sales and distribution networks established by the top twenty service provider's logistics companies in Indonesia. Moreover, the following Table 3 provides the result of hypotheses.

Table 3: Research Hypothesis Testing Result

Hypothesis	t-value	Coefficient.	Remarks	Summary
H1: Partner Complementary will have positive relationship Supply Chain Collaboration	3.88	0.29	Significant Positive	Accepted
H2: Partner Commitment will have positive relationship Supply Chain Collaboration	2.41	0.33	Significant Positive	Accepted
H3: Partner will have positive relationship Supply Chain Collaboration	2.44	0.28	Significant Positive	Accepted
H4: Supply Chain Collaboration will have positive relationship Collaborative advantage	14.15	0.79	Significant Positive	Accepted
H5: Partner Collaborative Advantage will have positive relationship Firm Performance	5.01	0.64	Significant Positive	Accepted
H6: Supply Chain Collaboration will have positive relationship Firm Performance	2.57	0.25	Significant Positive	Accepted

Besides the hypothetical prove, the impact on business performance separately, supply chain management practices offer a statistically significant positive relationship. This is consistent with the study that underscores the importance of supply chain management practices as key to firm performance. The finding is also in line with the one done by Chong et al. [18] in Malaysian firms. Apart from their observation that supply chain management practices are positively related to firm performance, they mention the consequence of these practices on innovation improvement that also leads toward better organisational performance.

5. CONCLUSION AND RECOMMENDATION

In a supply chain, a partnership among various entities interplays at some levels. First, it is aimed at recognising each other as being partners, and the scope of collaboration is confined to a limited scale. Then, the partnership takes off to a new level and is designed at integrating myriad activities among supply chain members keeping a longer-term perspective in mind. Having maintained this, such partnership finally blossoms into a shared, mutually beneficial and lasting relationship where each member

considers others as value-adding partners to its activities, resulting in a lean and seamless supply chain.

Besides, the significant role played by the commitment of the top management and training is evident from the study done by Khang et al. [40] in the Malaysian service industry. According to the authors, the support on the part of the top management is a sine qua non to initiating changes in business processes as well as in an organisational culture that can be tailored to attaining an enduring partnership among the supply chain entities. Management support is also critical to securing funds needed to be allocated to educate and train the employees so that they can appreciate the importance and efficacy of supply chain management practices. Lack of support and commitment, argue Khang et al. [40], would also impede the smooth implementation of IT infrastructure required for a collaborative supply chain. Conducted in the context of European trucking industry, the above view is also embraced by Premkumar et al. (1997) when it comes to the successful adoption of EDI across the supply chain. Other studies also highlight the significant influence exerted by committed top management to an efficient supply chain management practices [12] Min & Mentzer, 2004).

However, the absence of organisation-wide training programs so that executives working across various departments can value the potential benefits accruing from supply chain management practices smacks of lukewarm managerial commitment at the top in the Indonesian service provider's logistics industry. The incorporation of supply chain management practices in an organisation would be possible once employees adapt, accept and realise its potential in delivering the benefits to them. In this regard, the role of training is pivotal [57]. Training imparts the knowledge and skills required by the employees in adding value to the activities that span across the boundaries of different supply chain partners. In this current competitive business landscape, organisations should consider employee training a top priority issue to develop and hone the requisite skills, such as IT for forging collaboration and for increased exchange of information in a supply chain.

Finally, there is a shortage of empirical studies previously conducted highlighting the relationship between

supply chain management and strategic practices. The current study demonstrates that these two practices are positively associated with each other and play a complementary role in buttressing business competitiveness, customer satisfaction and business performance. This holds first implication, particularly for the service provider's logistics industry, which is a knowledge-intensive one. As knowledge is generated both within and outside of the organisations, a critical question would arise as to (i) which information is to be channelled to whom and (ii) how this knowledge is passed along different entities along the supply chain. With the competition now said to be fought along supply chains, an appreciation on the part of the service provider's logistics companies of how these two management practices can get together to realise efficient and effective business operations cannot be overly emphasised. This study attempts to fill that void in the extant literature in this area.

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