

Uncertain Supply Chain Management

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Effects of supply chain integration on firm's performance: A study on micro, small and medium enterprises in India

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ABSTRACT

The cooperation in the supply chain assumes an adequate job for enhancing an organisation's performance and increasing competitive advantage. Supply Chain Integration (SCI) affects organisational performance. This paper studies the impact of the integration of supply chain procedures and practices on organisational performance and explores the effect of SCI on organisational performance at Micro, Small and Medium Enterprises (MSMEs) in Madurai District, Tamilnadu, India. A questionnaire is developed with validated measurement scales from previous studies and empirical data are collected through a survey questionnaire from 250 randomly selected MSMEs. This research provides sound recommendations to MSMEs in Madurai District, Tamilnadu, India, and maybe used for different industries and decision making policies. Finally, the study will contribute to the scientific field by providing some future studies.

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1. Introduction

Globalisation was led by advancement in communication and transportation (Ataseven & Nair, 2017). Because of globalisation, customers' requirements and needs are changing rapidly. Buyers require appropriate goods and services at a reasonable price and in a reasonable time with high quality and the right place. If organisations want to compete in the new market, they should correspond with the beforehand customers' demands (Cao & Zhang, 2011; Gimenez, van der Vaart, & Pieter van Donk, 2012). To satisfy the customers' needs, organisations should enhance all their activities and strategies. Supply Chain Management (SCM) is a framework that enhances all processes accomplished by the organisations (Arzu Akyuz & Erman Erkan, 2010). SCM is a complicated operation that includes all supportive movements of vendors, suppliers to after-sales services. To have the capacity to develop and endure any organisation needs to recognise its qualities and deficiencies and to re-enforces on conditions and conquer weaknesses (Wong et al., 2010). Actualising SCM can be a foundation of competitive advantages (Ou et al., 2010) which prime to better performance by and overall organisations' performance (Danese & Romano, 2011).

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The cooperation in the supply chain assumes an adequate job for enhancing an organisation's performance and increasing competitive advantage. To use the supply chain at its most extreme performance level, organisations need to incorporate their objectives and practices together (Prajogo & Olhager, 2012; Ralston et al., 2015). The supply chain partners need to concentrate on different components to guarantee competitive advantage: cost negotiation to increment in profit, and financial collaboration effort to support innovative product design (Arzu Akyuz & Erman Erkan, 2010; Prajogo & Olhager, 2012). The SCM involves integration and synchronisation for achieving and reacting to customer request changes (Flynn et al., 2010; Govindan et al., 2015). Studies demonstrate that Supply Chain Integration (SCI) affects organisational performance (Prajogo & Olhager, 2012; Ralston et al., 2015; Prajogo et al., 2016). Like this, it appears that its value must be reflected to the impact of the integration of supply chain procedures and practices on organisational performance, so this research explores the effect of SCI on organisational performance at Micro, Small and Medium Enterprises (MSMEs) in Madurai District, Tamilnadu, India.

The MSMEs have been contributing substantially to the extension of entrepreneurial endeavours through business improvements. The MSMEs are broadening their domain across over parts of the economy, delivering the differing range of products and services to meet requests of worldwide markets (Ministry of Micro, Small and Medium Enterprises, 2018). Thus, the MSMEs performance will affect the nation's economy. Studies also reveal that MSMEs in Madurai district are confronting numerous difficulties and obstacles which thus influenced the overall performance at these organisations (Flynn et al., 2010; Danese & Romano, 2011; Huo, 2012). Mostly MSMEs in Madurai district worried about accomplishing their very own goals independently and constant changing in customer needs and requirements because of extreme competitions among the organisations. Consequently, this leads to challenges in integrating supply chain activities and procedures, which delay supplying products and services to customers in the appropriate place at a reasonable time and loss of competitive advantage (Huo, 2012).

This study aims to examine the effect of SCI on organisational performance in Madurai District, Tamilnadu, India. This research will also give sound recommendations to MSMEs in Madurai District, Tamilnadu, India, and for other industries. Finally, this study will contribute to the scientific field. These days, the focus of SCI and organisational performance is to get increasingly more significance because of its effect on an organisation's existence, steadiness, and progress. Thus, reviewing the impact of SCI on a firm's performance is an essential subject for organisations, and for academicians. This study may be considered as an initiative that investigates the effect of SCI on organisational performance at MSMEs. Subsequently, enough knowledge about the SCI in organisational performance will enhance MSMEs performance. Outcomes of this research are critical for MSMEs, as well as for different industries, decision makers and the academicians.

2. Literature Review

Different literature characterised SCI and supply chain performance in various ways, and every definition was custom fitted as indicated by the idea of the study, business, and research objective. SCI is about cooperation, collaboration and coordination among various players of the supply chain, which upgrades an organisation's performance. The accompanying segment will handle the ideas of SCI and supply chain performance, and the relationship between them.

2.1. Supply Chain Integration

In this study, SCI is characterised as the procedure of collaboration inside supply chain players that oversee inter and intra-organization activities to accomplish efficient flow of products, services and information to provide most extreme value to the customer in the right place at a reasonable cost (Rosenzweig et al., 2003; Bagchi et al., 2005; Zelbst et al., 2009).

2.2 Supply Chain Integration Elements

SCM can be grouped into three dimensions to the better comprehension of SCI (Stank et al., 2001; Zhao et al., 2008; Fabbe-Costes & Jahre, 2008). Suppliers are contemplating about the principal sources of information and input that are required by the organisational tasks, so they have an essential job in the continuation of assembling products and/or services to meet customer requirements (Armistead & Mapes, 1993; Rosenzweig et al., 2003). In recent years, manufacturing organisations tend to form a stable relationship with their suppliers to deal with the variance in demands of the customers and lessening the production cycle time and delivery time defined by the firm and the customers (Bagchi et al., 2005; Zhao et al., 2011; Huo, 2012). Suppliers now are progressively associated with creating the products to promote production and remaining neighbouring to the customer (Kim, 2009; Alam et al., 2014). Therefore, the investigation characterised supplier integration (SI) as the procedure of cooperation among partners and organisation that encourage the distribution of data, experience, materials and services. Correct items that redirect the purpose of the partnership, association, and additional applicable matters among supplier and firms assessed the SI.

Internal integration (II) is the focal point of gravity for the two suppliers and customers, and it's viewed as the essence that keeps up the stability and consistency for all supply chain parties so that the organisation could make neither supplier nor CI without II (Wong et al., 2011; Huo, 2012; Xu, Huo & Sun, 2014). Building the exact supply chain procedure depends firmly on the presence of clear and shared objectives, which initially got from the acceptance of all functional divisions of the organisational goals (Zelbst et al., 2009; Prajogo & Olhager, 2012; Huo, 2012; Govindan et al., 2015). Within sight of such understanding, every division is thinking about two sorts of customers (Huo, 2012; Zhang & Huo, 2013; Zhang & Huo, 2013; Leuschner et al., 2013). The primitive customer is the preeminent client that the organisation aims to render with the finished goods or services, and the secondary customer is different divisions or the human resources where relying on the different outcomes to keep accomplishing their tasks and therefore the organisation can achieving the goal (Flynn et al., 2010; Danese & Romano, 2011; Ataseven & Nair, 2017). In this study, II is determined as the way toward keeping up cross-functional participation and collaboration inside the organisation that means to achieve strategic organisational goals. It was estimated by a group of indicators that identified the purpose of a link, coordination and cooperation between various departments.

The organisation is considering the customers as of the source of life, so forth organisations give either goods or services, and it's viewed as the natural air that is required by the organisation to develop and having the capacity to withstand in the presence of the substantial and extreme competitions (Fabbe-Costes & Jahre, 2008; Leuschner et al., 2013). Customer needs and requirements are changed continuously, so what was viewed as significant in the past possibly becomes complementary in near future (Petersen et al., 2005; Mellat-Parast & Spillan, 2014). Accordingly, the organisations should observe the external environments. Moreover, it should carry on proactively yet not reactively being better over competitors in performing customer needs (Bagchi et al., 2005; Danese & Romano, 2011; Yu et al., 2013). In the current study, CI is characterised as the way toward building and keeping up a stable relationship and partnership with the customers. It incorporates sharing information, service, outputs, and recommendations with customers. It was estimated by chosen items that investigate the involvement and cooperation related concerns. The current research addresses the SCI, which incorporates supplier, internal and CI.

2.3 Organisational Performance

A more extensive conceptualisation and progressively efficient performance measure should incorporate indicators of operational performance, besides, those of financial performance (Gunasekaran, Patel, & Tirtiroglu, 2001; Hervani et al., 2005). This is primarily because non-financial measures can overcome the limitations of merely utilising financial performance measures. There are

numerous advantages on employing non-financial measures, including the facts that non-financial measures are timelier than financial ones. The financial performance measures are increasingly quantifiable, and they are predictable with organisation objectives and strategies (Chang et al., 2003; Martínez Sánchez & Pérez Pérez, 2005). However, non-financial measures change and differ after some time as market needs change and hence manage to be flexible (Gunasekaran, Patel, & Tirtiroglu, 2001; Gunasekaran, 2004). While financial performance measures are bound to reflect the evaluation of a firm by components outside of the organisation's limits, operational measures indicate about more straightforwardly the effectiveness of the tasks inside the organisation (Gupta & Somers, 1996; Chang et al., 2003). These classifications of performance reflect competencies in specific areas of the supply chain, including cost, transportation speed and consistent quality, reliability, and customer satisfaction. Organisational performance measures give a reasonable indication of the efforts of the supply chain dimensions. Perceiving the significance of financial and non-financial performance, supply chain organisation must incorporate both measurements.

2.4 Conceptual Model

Based on the above literature discussions, the framework of SCI and company performance was developed. Mostly, the current conceptual model was modified and adapted from Huo (2012) study on the impact of SCI on company performance: an organisational capability perspective.

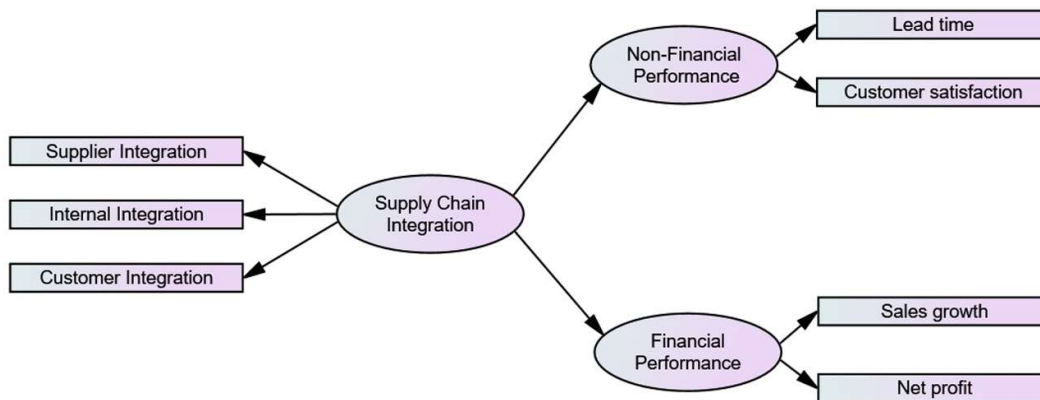


Fig. 1. Conceptual Model

2.5 The hypothesis of the study

The above stated conceptual model below stated hypotheses was tested.

H₀₁: SCI has a significant impact on the firm's financial performance

H₀₂: SCI has a significant effect on the firm's non-financial performance

3. Methods

The target population of the study was micro, small and medium enterprises in Madurai district, Tamil Nadu, India. Information about the MSMEs was collected from the micro, small and medium enterprises (MSME) department of Tamil Nadu state government website. 29,485 MSME units of Madurai District are registered with the MSME department. The targeted respondents for the questionnaire were primarily chief executive officers, managing directors, owners of firms or senior officers/executives in charge of supply chain practices in companies who would have adequate

knowledge of how their firms carry out their supply chain functions and how effective is their performance. Since interviewer-administered questionnaires were used to collect the data and the response rate for interviewer-administered questionnaires is 90%, 300 SMEs were randomly selected for the research. After the data collection, 50 questionnaires were removed from the research due to incomplete, biased and outlier issues. Only 250 completed cleaned data were used for calculation. Empirical data was collected through a survey questionnaire.

3.1. Instrument Development

Based on literature review, the researcher has identified three variables that contribute to MSMEs performance (SI, II & CI) 10 items and the total measured each variable were 30 items (from item 1 to item 30 in the questionnaire). For instance, respondents were asked to indicate the importance of SCI to the accomplishment of their supply chain performance, using a seven-point scale with endpoints “Strongly disagree” (1) and “strongly agree” (7) adopted from Saleh (2015). In this study, four dimensions are used to measure a firm’s performance. Respondents were asked to rate overall performance using the following measures: sales growth, net profit, customer satisfaction, and order lead time. Customer satisfaction was measured by multiple items, and the remaining three dimensions were measured by a single item, adopted from Gunasekaran (2004), Gupta and Somers (1996). First, sales growth was measured by sales growth rate. Second, net profit was measured regarding net profit rate. Third, customer satisfaction was considered regarding the level of customer perceived value of the product, the level of service systems to meet customer needs, and response time to a customer query. Fourth, lead time was measured by a single indicator order lead-time. To provide the supply chain managers with a broader view, each measure of the firm’s performance discussed above was evaluated about the firm’s major competitors during three years. The criteria compared with the relative major competitors for the last three years the response options, anchored on a seven-point scale with “1” being “Very Weak” and “7” being “Very Strong” was adopted from Aissa Fantazy et al. (2009). The questionnaire was developed with validated measurement scales from previous studies that examined constructs in a query in the present study.

4. Results

It is necessary to test that the measurement model has a satisfactory level of validity and reliability before testing for a significant relationship in the structural model (Fornell & Larcker, 1981). Psychometric properties of the measurement model were evaluated with composite reliability (CR) and convergent validity (Hair et al., 1998). All constructs exhibited CR with the minimum acceptable level of 0.60, indicating excellent reliability. Fornell and Locker’s average variance extracted (AVE) criterion is followed for the estimation of scales’ convergent validity. AVE value of a latent variable should be higher than 0.50, to explain more than half of the variance of its indicators on average (Malhotra & Dash, 2011; Hair et al., 1998). As depicted in Table 1, all the latent constructs (supply chain integration) met this criterion.

Table 1

Validity and Reliability of the research scale

Dimensions	CR	AVE	MSV	MaxR(H)	1	2	3
1. Supplier integration	0.912	0.512	0.069	0.923	0.716		
2. Internal integration	0.910	0.505	0.030	0.916	0.172*	0.711	
3. Customer integration	0.921	0.541	0.069	0.934	0.264**	0.072	0.735

Note: *p<0.05; **p<0.01

Table 1 concludes that all Composite Reliability (0.7) and convergent validity approach was used and it shows that Average Variance Extracted values (0.5) for all construct are higher than normal levels. It supports Composite reliability and convergent validity of the constructs. Table 1 also shows that

Maximum shared variance (MSV) is less than AVE, Maximum reliability (MaxR (H)) is greater than CR, AVE and the square root of AVE is greater than inter-construct correlations which support the discriminant validity of the construct (Hu & Bentler, 1999).

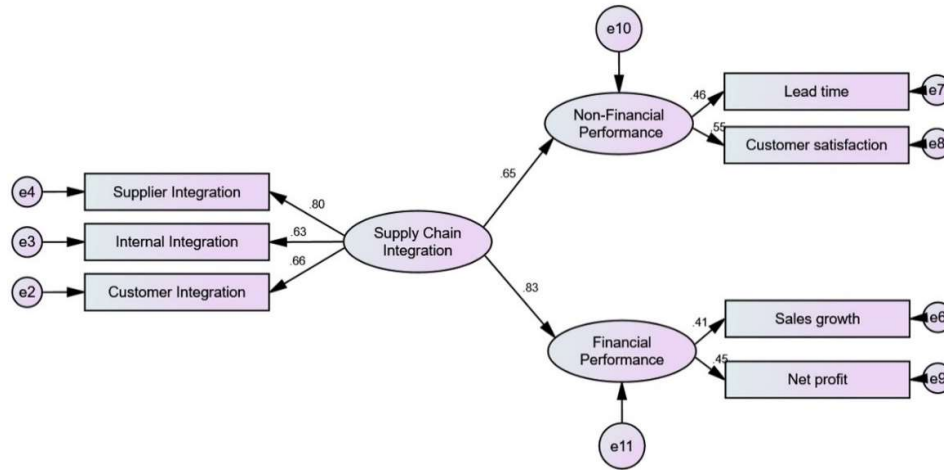


Fig. 2. Impact of SCI on supply chain performance

Table 2

Standardized coefficient table

Structural Relationship		Beta
Non-Financial Performance	←	0.646**
Financial Performance	←	0.830**
Customer Integration	← Supply Chain Integration	0.658**
Internal Integration	←	0.633**
Supplier Integration	←	0.804**
Lead Time	← Non-Financial Performance	0.463**
Customer satisfaction	←	0.553**
Sales Growth	← Financial Performance	0.414**
Net profit	←	0.451**

**p<0.01

Table 2 shows the structural relationship between the SCI and financial, the non-financial performance of the MSMEs in Madurai District. Overall SCI has significantly predicted all three SCI dimensions, among those three dimensions, SI (beta=0.804; p<0.01) is the most significant predictor than II (beta=0.658; p<0.01) and CI (beta=0.633; p<0.01). The customer satisfaction (beta=0.553; p<0.01) is the most significant predictor of non-financial performance and Net profit (beta=0.451; p<0.01) is the most significant predictor of the financial performance of the MSMEs in Madurai District. Supply chain integrations have direct effects on the supply chain's financial performance (beta=0.830; p<0.01) and non-financial performance (beta=0.646; p<0.01) and hence, H01 and H02 are supported.

Table 3

Model Fit Statistics

χ^2	df	χ^2/df	GFI	AGFI	CFI	RMSEA	RMR
33.039	12	2.753	0.963	0.914	0.926	0.084	0.041
-	-	2-5	>0.90	>0.80	>0.95	<0.08	<0.05

Browne and Cudeck (1993) study indicates that the model fit can be checked by RMSEA, which is less than 0.08 has a good fit, and less than 0.05 has a closer fit. Chin and Todd (1995) study proposed that for the goodness of model fit GFI (Goodness of Fit Index) should be above 0.9. Bentler (1990) study

suggests for good model fit CFI (Comparative Fit Index) should be greater than 0.9. According to Hu and Bentler (1999) “Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives” and recommend combinations of measures. As per the various model fit statistics indicates that the model was a good fit.

5. Discussion and Conclusion

The present research findings confirm that SCI significantly affects the MSMEs performance in the Madurai district. This study indicates that the outcome to the familiarity of the supervisors, managers, top-level executives, policymakers who work at MSMEs in Madurai district about the significance of SCI and its impact on the financial and non-financial performance of the firms. Independent variables (supplier, internal, and customers) have a significant level of integration. The researchers believe that SI is the most imperative and this may include the participant's acceptance about the exceeding significance of internal and CI given the difficulties in satisfying customer requirements to improve the employee responses and approaches toward modern culture. The result is matching with the outcome of Stank et al. (2001), Zhao et al. (2008), Kim (2009), Yu et al., (2013) studies and confirm that supply chain strategies have positive effects on competitive advantage. The supplier engagement has a significant and positive influence on product innovation and made substantial improvements in firms return. CI improved the firm's production efficiency, which is agreed by Saeed et al. (2005) and Petersen et al. (2005). CI is the second most critical dimension among SCI. The satisfaction of the customers is the ultimate goal that all businesses strive to accomplish. At last, II is the third level of integration as it is the substance between SI and CI, and it is difficult to accomplish either SI or CI without II. Huo (2012), Gimenez et al. (2012), Alam et al. (2014) studies are consistent with above result. Results have also shown that SI was having the most remarkable impact on organisational performance, trailed by CI, lastly II. These results are running are in line with the vast majority of past studies— for example, Wong et al., (2011), Prajogo, and Olhager (2012) who demonstrated that there is a positive relationship between SCI measurements and financial and non-financial performance measurements. Huo (2012) and Mellat-Parast, and Spillan (2014) additionally proved that the integration could be strongly identified with overall organisational performance - primarily through the impact on productivity, profitability and customer service and satisfaction. Zhang and Huo (2012) explained that trust with customers/suppliers fundamentally impacts supply chain integration. Both II and CI permanently enhanced financial and non-financial performance, Rosenzweig et al. (2003), Zhao et al., (2011), Xu et al. (2014) demonstrated that SI, II and CI influenced the competitive performance and identified with the organisations' performance.

6. Managerial Implications

The organisations should consciously create diverse SCI abilities to accomplish different sorts of organisation performance. For instance, organisations should initially set up II before they can achieve outside integration. On the off chance that organisations have a weak II, for example, poor integration of internal information, fewer interactions among departments, no teamwork, or clashes inside the organisation, it will be hard for the organisations to share the information with their suppliers or customers. Without proper information sharing with the customer and supplier, the organisation will lose the opportunity to share the product plans. Next, organisations should focus on CI, which includes CRM, customers as a strategic partner, sharing and continuous communication about product plans to customers, and process coordination with customers. It significantly impacts customer-oriented performance, which generally helps performance. Thus, in enhancing overall performance, CI is proficient than the integration of suppliers. Firms with more massive amounts of possible CI have been rewarded for their integration efforts. Last, organisations should create supply chain integration, including tactical/strategical orientation with suppliers, data sharing to suppliers, cooperating with suppliers, cooperative plan with suppliers and supplier relationship management, which is useful for supplier-oriented performance and prompts overall performance. If there is no resource limitation, organisations should build up each of the three sorts of supply chain integration, since it is just when all three are very much developed that organisations will produce the extraordinary overall

performance. For instance, without outside integration, II cannot utilise the mediating function of outer integration in enhancing organisational performance.

In conclusion, an ideal approach to accomplish overall performance is to create II and pursued by the selection of CI. In any case, it is not advisable to exclusively set up SI to accomplish in general performance. Finally, organisations need to develop great relationships, information sharing, and facilitate forms among internal capacities and with outer supply chain associates, to accomplish excellent organisation performance. As competition has moved from organisations to supply chains, organisations should deliberately create internal and external integrative organisational capacity to meet the necessities of circumstances, customers, and partners. The activity of organisational ability is evolving progressively complicated and higher challenging for managers. Decision makers and management must encompass a holistic SCI to deal with their supply chains to perform better organisation performance.

7. Future Scope of the Study

The study prescribes that to complete comparative research on different MSMEs in India first think about the results and remain on the differences, if possible, give the appropriate interpretations. Despite the accuracy of including all SCI factors, however, there might be an extension to incorporate different elements including the option of a variable to an intermediate, for example, the effect of the external environment. Additionally, it is conceivable to include various factors like supply chain flexibility. It is directed to restudy a similar subject on a related industry over some time frame to assess the advancement resulting from the use of supply chain integration. It is encouraged to direct parallel investigations from suppliers and customers.

References

- Aissa Fantazy, K., Kumar, V., & Kumar, U. (2009). An empirical study of the relationships among strategy, flexibility, and performance in the supply chain context. *Supply Chain Management: An International Journal*, 14(3), 177-188.
- Alam, A., K. Bagchi, P., Kim, B., Mitra, S., & Seabra, F. (2014). The mediating effect of logistics integration on supply chain performance: a multi-country study. *The International Journal of Logistics Management*, 25(3), 553-580.
- Armistead, C., & Mapes, J., (1993). The impact of SCI on operating performance. *Logistics Information Management*, 6(4), 9-14.
- Arzu Akyuz, G., & Erman Erkan, T. (2010). Supply chain performance measurement: a literature review. *International Journal of Production Research*, 48(17), 5137-5155.
- Ataseven, C., & Nair, A., (2017). Assessment of SCI and performance relationships: A meta-analytic investigation of the literature. *International journal of production economics*, 185, 252-265.
- Bagchi, P. K., Chun Ha, B., Skjoett-Larsen, T., & Boege Soerensen, L. (2005). Supply chain integration: a European survey. *The international journal of logistics management*, 16(2), 275-294.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological bulletin*, 107(2), 238.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. *Sage focus editions*, 154, 136-136.
- Cao, M., & Zhang, Q. (2011). Supply chain collaboration: Impact on collaborative advantage and firm performance. *Journal of operations management*, 29(3), 163-180.
- Chang, S. C., Yang, C. L., Cheng, H. C., & Sheu, C. (2003). Manufacturing flexibility and business strategy: an empirical study of small and medium sized firms. *International Journal of Production Economics*, 83(1), 13-26.
- Chin, W. W., & Todd, P. A. (1995). On the use, usefulness, and ease of use of structural equation modeling in MIS research: a note of caution. *MIS quarterly*, 237-246.
- Danese, P., & Romano, P. (2011). Supply chain integration and efficiency performance: a study on the interactions between customer and supplier integration. *Supply Chain Management: An International Journal*, 16(4), 220-230.

- Fabbe-Costes, N., & Jahre, M. (2008). SCI and performance: a review of the evidence. *The International Journal of Logistics Management*, 19(2), 130-154.
- Flynn, B. B., Huo, B., & Zhao, X. (2010). The impact of SCI on performance: A contingency and configuration approach. *Journal of operations management*, 28(1), 58-71.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 39-50.
- Gimenez, C., van der Vaart, T., & Pieter van Donk, D. (2012). SCI and performance: the moderating effect of supply complexity. *International Journal of Operations & Production Management*, 32(5), 583-610.
- Govindan, K., Soleimani, H., & Kannan, D. (2015). Reverse logistics and closed-loop supply chain: A comprehensive review to explore the future. *European Journal of Operational Research*, 240(3), 603-626.
- Gunasekaran, A. (2004). Supply chain management: Theory and applications. *European Journal of Operational Research*, 159(2), 265-268.
- Gunasekaran, A., Patel, C., & Tirtiroglu, E. (2001). Performance measures and metrics in a supply chain environment. *International journal of operations & production Management*, 21(1/2), 71-87.
- Gupta, Y.P., Somers, T.M., (1996) "Business Strategy, Manufacturing Flexibility, and Organizational Performance Relationships: A Path Analysis Approach" *Production and Operations Management*, 5 (3), pp. 204-233.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis*. 1998. *Upper Saddle River*.
- Hervani, A. A., Helms, M. M., & Sarkis, J. (2005). Performance measurement for green supply chain management. *Benchmarking: An international journal*, 12(4), 330-353.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, 6(1), 1-55.
- Huo, B. (2012). The impact of SCI on company performance: an organizational capability perspective. *Supply Chain Management: An International Journal*, 17(6), 596-610.
- Kim, S. W. (2009). An investigation on the direct and indirect effect of SCI on firm performance. *International Journal of Production Economics*, 119(2), 328-346.
- Leuschner, R., Rogers, D. S., & Charvet, F. F. (2013). A meta-analysis of SCI and firm performance. *Journal of Supply Chain Management*, 49(2), 34-57.
- Malhotra, N. K. & Dash, S.,(2011). *Marketing Research: An applied Orientation (6th ed.)*. NJ: Pearson Education.
- Martínez Sánchez, A., & Pérez Pérez, M. (2005). Supply chain flexibility and firm performance: a conceptual model and empirical study in the automotive industry. *International Journal of Operations & Production Management*, 25(7), 681-700.
- Mellat-Parast, M., & E. Spillan, J. (2014). Logistics and supply chain process integration as a source of competitive advantage: An empirical analysis. *The International Journal of Logistics Management*, 25(2), 289-314.
- Ministry of Micro, Small and Medium Enterprises. (2018). *Annual Report 2017-2018*. New Delhi: Ministry of Micro, Small and Medium Enterprises, Government of India.
- Petersen, K. J., Handfield, R. B., & Ragatz, G. L. (2005). Supplier integration into new product development: coordinating product, process and supply chain design. *Journal of operations management*, 23(3-4), 371-388.
- Prajogo, D., & Olhager, J. (2012). SCI and performance: The effects of long-term relationships, information technology and sharing, and logistics integration. *International Journal of Production Economics*, 135(1), 514-522.
- Ou, C. S., Liu, F. C., Hung, Y. C., & Yen, D. C. (2010). A structural model of supply chain management on firm performance. *International Journal of Operations & Production Management*, 30(5), 526-545.

- Prajogo, D., Oke, A., & Olhager, J. (2016). Supply chain processes: Linking supply logistics integration, supply performance, lean processes and competitive performance. *International Journal of Operations & Production Management*, 36(2), 220-238.
- Ralston, P. M., Blackhurst, J., Cantor, D. E., & Crum, M. R. (2015). A structure–conduct–performance perspective of how strategic SCI affects firm performance. *Journal of Supply Chain Management*, 51(2), 47-64.
- Rosenzweig, E. D., Roth, A. V., & Dean Jr, J. W. (2003). The influence of an integration strategy on competitive capabilities and business performance: an exploratory study of consumer products manufacturers. *Journal of operations management*, 21(4), 437-456.
- Saeed, K. A., Malhotra, M. K., & Grover, V. (2005). Examining the impact of interorganizational systems on process efficiency and sourcing leverage in buyer–supplier dyads. *Decision Sciences*, 36(3), 365-396.
- Saleh, H. (2015). *The Impact of SCI on Operational Performance at Jordanian Pharmaceutical Manufacturing Organizations* (Doctoral dissertation, Middle East University).
- Stank, T. P., Keller, S. B., & Closs, D. J. (2001). Performance benefits of supply chain logistical integration. *Transportation Journal*, 32-46.
- Wong, C. Y., Boon-Itt, S., & Wong, C. W. (2011). The contingency effects of environmental uncertainty on the relationship between SCI and operational performance. *Journal of Operations management*, 29(6), 604-615.
- Xu, D., Huo, B., & Sun, L. (2014). Relationships between intra-organizational resources, SCI and business performance: an extended resource-based view. *Industrial Management & Data Systems*, 114(8), 1186-1206.
- Yu, W., Jacobs, M. A., Salisbury, W. D., & Enns, H. (2013). The effects of SCI on customer satisfaction and financial performance: An organizational learning perspective. *International Journal of Production Economics*, 146(1), 346-358.
- Zelbst, P. J., Green Jr, K. W., Sower, V. E., & Reyes, P. (2009). Impact of supply chain linkages on supply chain performance. *Industrial Management & Data Systems*, 109(5), 665-682.
- Zhang, M., & Huo, B. (2013). The impact of dependence and trust on supply chain integration. *International Journal of Physical Distribution & Logistics Management*, 43(7), 544-563.
- Zhao, X., Huo, B., Flynn, B. B., & Yeung, J. H. Y. (2008). The impact of power and relationship commitment on the integration between manufacturers and customers in a supply chain. *Journal of Operations Management*, 26(3), 368-388.
- Zhao, X., Huo, B., Selen, W., & Yeung, J. H. Y. (2011). The impact of internal integration and relationship commitment on external integration. *Journal of operations management*, 29(1-2), 17-32.

