The Relationship between Supply Chain Integration and Supply Chain Performance among Logistic Service Provider in Johor

Ida Izyani Misnan[1], Fazian Hashim[1]*

[1] Department of Management and Technology, Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia, 86400 Batu Pahat, Johor. MALAYSIA

*Corresponding Author: fazianh@uthm.edu.my
DOI: https://doi.org/10.30880/rmtb.2024.05.01.032

Article Info

Abstract

For many years, supply chain integration—the strategic alignment of internal organizational activities and processes—has been a major focus of concern. The precise design of the kind of integration that will result in supply chain performance is a topic of much discussion. This study aimed to determine the ways in which logistics service providers in Johor will benefit from enhanced supply chain performance, including logistics flexibility and operational performance, through two types of integration: internal and supplier integration. 95 workers of a Johor logistics service provider participated in an online survey, with a 66% response rate. Both descriptive analysis and Spearman correlation analysis were used to analyze the data. The results of this study indicated a significant correlation between supply chain performance and supply chain integration.

1. Introduction

1.1 Research Background

Any economy's growth depends heavily on the logistics industry, which links businesses to both local and global markets. Most economic activities are greatly impacted by an effective logistics network, which is also necessary for growth and productivity. The process of planning, executing, and managing the activities for the safe and efficient movement and storage of products, including services, and associated data from the point of origin to the point of consumption in order to meet consumer demands is a widely accepted definition of logistics. (Srivastava, 2021) This concept includes inbound, outbound, internal, and exterior motions. In order to maximize current and future profitability through the effective fulfilment of orders, some authors define logistics as the process of strategically coordinating the acquisition, transportation, and storage of raw materials, manufactured goods, and finished inventory (as well as the information flows related) through an organization's and its marketing channels. (Ślusarczyk *et al.*, 2021; Srivastava, 2021)

The degree of rivalry among companies has increased, and as a result, companies are now seeking partnerships with other companies in order to gain an upper hand in the market rather than just developing and implementing strategies. (Omar *et al.*, 2022). Businesses are searching for innovative strategies to get the upper hand and maintain their competitiveness as the level of competition in the global market rises. Due to this, experts and supply chain managers are now thinking about integrating as a possible means of forming strategic partnerships. Supply chain integration, or SCI, is the process by which supply chain players collaborate to increase profitability and performance while meeting customer expectations. In order to reduce expenses,

increase customer value, and enhance supply chain performance for all parties involved, it involves handling business operations both internally within the organisation and with its supply chain partners.

It has been shown through numerous studies that supply chain integration increases financial performance and profitability. A sample of 195 Chinese companies were used in their study by Kazemian and Aref, (2016), which revealed that the supply chain integration plays a crucial role in improving financial performance and showing the advantages of management's strategic partnership with SCI. Additionally, (Carlos *et al.*, 2021) discovered that companies with good internal integration in their operations provide enough requirements for the organization to improve its financial performance. When all parties in the supply chain are connected and properly communicate, their flow is able to quickly react to any long or short-term changes in the market.

1.2 Problem Statements

Although firms have faced significant challenges in integrating their supply chain internally and with other supply chain partners, barriers can actually be a key driver for improved performance because they aim to address the issues in the business environment by enhancing its internal and external relations (Altay *et al.*, 2018; Scholten & Fynes, 2016). Firms maintain a holding hands position with their links and partners in the supply chain when they don't trust their supply partners (Bode & Wagner, 2015). Conflicting supply chain goals and interests also greatly hinder integration. Occasionally, different departments within a corporation will have competing aims, preventing a well-coordinated system from operating (Hong *et al.*, 2019).

Another major problem that prevents integration in the supply chain is an organization's culture. Because they wish to form partnerships with other companies in the supply chain, organizations find it challenging to modify their processes and different methods of operating (Altay *et al.*, 2018). The most significant barrier to building successful partnerships with others in the supply chain has been shown to be internal organizational barriers (Brusset & Teller, 2017).

The literature has thoroughly addressed the advantages of SCI, but the key design elements that will improve performance have not yet been fully explored. Additionally, the results are inconsistent as to whether integration actually improves supply chain performance. Numerous researches (Brusset & Teller, 2017) and others, indicate that integration improves the performance of the supply chain. However, majority of these studies ignore the influence of these individual indicators on particular performance indicators. Thus, our study's objective is to look at the relationship between supply chain performance and two integration constructs. The study also looks into other performance metrics that are understudied in SCI, like logistic flexibility and operational performance.

Therefore, to achieve the research objectives the level of supply chain integration adapted among logistic service provider in Johor is determined. Furthermore, the level of supply chain performance among logistic service provider in Johor also determined. Consequently, the relationship between supply chain integration and supply chain performance among logistic service provider in Johor is identified.

1.3 Scope of the Study

The relationship between supply chain performance and integration among organizational top management of Johor's logistic service providers is the main topic of this study. Because this study only included workers in the Johor area, it is not possible to apply the study's findings to workers in other regions.The most developed area in Southern Peninsular Malaysia is expected to be Johor, where a busy city effortlessly integrates lifestyle, environment, and business. (Roslan *et al.*, 2015) Johor is ideally situated as a gateway to the Asean market. Due to its strategic location, the area is well-positioned to advance quickly, draw attention, and receive significant investments from both domestic and foreign investors. Because of this, Johor is a vital location to grow your company or establish a logistic facility. It provides facilities and rewards for investments to attract domestic and foreign investors

1.4 Limitation of the Study

There were certain restrictions on this study. The primary constraint was the online questionnaire data collection approach. The study's questionnaire was inexpensive and completed in a straightforward manner. The response rate would be impacted, nevertheless, by some respondents' refusal to complete the questionnaire.

1.5 1.7 Significance of the Study

The objective of this study is to determine the relationship between supply chain integration and supply chain performance among logistics service providers in Johor. This study has the potential to produce several advantages such as this research has great practical importance in improving the leadership and work performance of staff at Johor. The results of this research can help make better decisions in the context of organizational management and provide a foundation for the development of more effective leadership strategies that focus on high work performance. In addition, this study is also able to benefit future researchers

such as a deeper understanding of the relationship between supply chain integration and supply chain performance among logistics services providers in Johor. There are various references that can be used and referred to by future researchers to refer studies if they wish to produce research on the same topic.

2. Literature Review

2.1 Supply Chain Performance

This is a reference to the operational results that the firm's supply chain functions achieve as a result of the many processes that are executed. This covers almost everything related to the transportation and transformation of goods from raw resources to consumers, or end users. (Cherikh *et al.*, 2018)

2.1.1 Operational Performance

Planning, control, timing, and appropriate scheduling all have an impact on how efficient an operation is; they also help to spot possible errors and enable a timely and efficient response. (Ringel *et al.*, 2016)

2.1.2 Logistics Flexibility

The ability of the organization to respond quickly to customer needs in delivery, support, and service. (Giovannini & Psaraftis, 2018)

2.2 upply Chain Integration

The definition of SCI given by a different author is "the scope and strength of linkages in supply chain processes across firms." Integration of information, operations, and relationships facilitates the connections between businesses in the supply chain.. (Valdez-Juárez *et al.*, 2018)
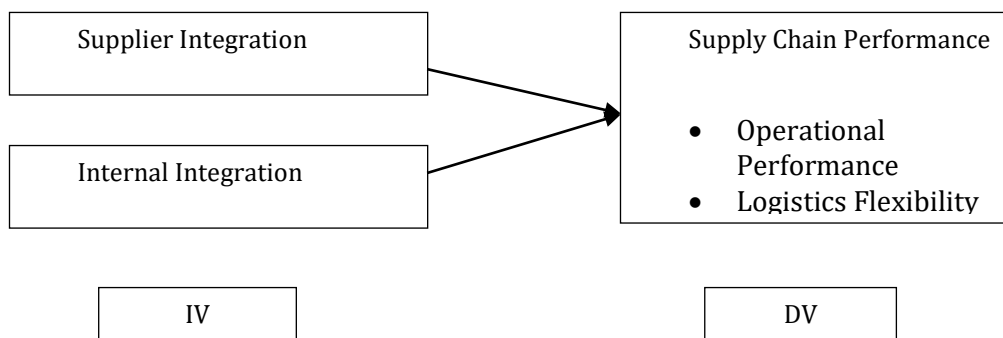
2.2.1 Supplier Integration

High-flexibility businesses are generally inventive and provide good customer service. It enables the manufacture of goods and services that adapt to the needs of the market (Zhao *et al.*, 2018).

2.2.2 Internal Integration

According to the research of (Kaliani Sundram *et al.*, 2016), SCI begins with internal integration amongst various organizational divisions and functions. Internal integration enhances business performance by cutting expenses and limiting departments' ability to take actions that would harm the objectives of the entire organization.

2.3 Conceptual Framework

Fig. 1 *Conceptual framework*

2.4 Hypothesis

H1: Supplier integration is positively linked to operational performance.
H2: Supplier integration is positively linked to logistic flexibility.
H3: Internal integration is positively linked to operational performance.
H4: Internal Integration is positively linked to logistic flexibility

3. Research Methodology

This chapter will explain the research methodology used for this study. First, this chapter will explain the study design that is the population, sampling, instruments chosen to address the problem and the study flow process. Second, it will explain how the research design and instruments selected are used to collect population data. Finally, this chapter will explain the data analysis used.

3.1 3.1 Research Design

Research design is a procedural plan adopted by researchers to answer questions in a very objective and accurate way, the research design will determine the type of analysis that the researcher uses to obtain the desired results. In fact, research design is also a systematic way of doing research studies.

3.2 3.2 Population and Sampling

3.2.1 Population

The researcher's target population consists of employees at logistic service provider located in Johor. Based on data from Johor Freight Forwarders Association (JOFFA), logistic service provider company at Johor are 230. Referring to the sample size by Krejcie and Morgan (1970), from the population showed the number of samples required is 144 respondents. However, only 95 respondents reply the questionnaire.

3.2.2 Research Sampling

Simple random sampling is the non-probability sampling method used in this study. A subset of a statistical population where each member has an equal chance of being chosen is called a simple random sample. The objective of a basic random sample is to fairly reflect the group. This is supposedly the case since the respondents who will be chosen are chosen at random and are specifically employees of Johor-based logistic service providers.

3.2.3 Sample Size

A sample is a part of the population from which the research will be selected and conducted. The sample size is smaller than the total population (Amalia, Dianingati, & Annisaa (2022) Before starting any research, the researcher must first determine the population and the sample size to ensure that the goals of the study can be achieved. This shows that the researcher will select a subset of the population shown by the sample. Based on the Krejcie and Morgan (1970) sampling table, this research has set a target of 143 respondents to fill out the questionnaire that will be distributed.

3.2.4 Pilot Study

A pilot study was carried out to evaluate the respondents' comprehension of the questions the researcher had included in the questionnaire before the main data gathering procedure began. The questionnaire will be distributed to 30 respondents. This pilot study also aims to determine the validity and reliability of the items in the questionnaire. The entire study may become invalid and unreliable when not conducting a pilot study and can help make the validity and reliability of the study as a whole more assured.

3.3 Research Instrument

The questionnaire will be divided into three sections which include section A, section B, and section C. Four questions make up the respondent's demographic profile in Section A. Section B comprises ten questions, all of which are connected to the independent variable section—supply chain integration. Section B's components were subdivided into two dimensions: information integration and internal integration. Additionally, the dependent variable in section C—supply chain performance—is measured by 10 questions. Two dimensions were used to further categorize the items in section C. Whereas scale is the level of measurement used in sections B and C, nominal measurement is utilized in part A. The measuring scale is a 5-point Likert scale with the following options for responding to the statement: strongly disagree, disagree, agree, and strongly agree.

3.4 Data Collection Procedure

Quantitative methods are primary data because they use numbers that are the number of respondents. The researcher used the method of collecting primary data through a questionnaire in this study. The researcher distributed a questionnaire made in Google Form. The questionnaire will be distributed to employees who work at logistic service provider. The distribution and collection of data from respondents took three months. The form distributed to respondents is in English and requires 10 minutes to answer the questions completely. The data was collected from employees at logistic service provider located in Johor with 143 respondents were required to answer the questionnaire.

3.5 Data Analysis

Data analysis will be performed to determine the study's findings and whether or not the research will achieve its objectives by examine the data collected from participants' questionnaire responses. Statistical Package for the Social Science (SPSS) version 27 was used to analyze all the data obtained from the research instruments. This analysis technique includes both descriptive and correlational analysis to effectively address each research question.

3.5.1 Descriptive Analysis

Descriptive statistics are used to analyze the data received in the questionnaire, which is the demographic part of the respondents. The information required in the demographics of the respondents is gender, age group, race, employee position and years of service in the company. The results of the information will be determined according to the mean score according to the degree of tendency

3.5.2 Reliability and Validity

Reliability is the consistency or stability of assessment results. This means that an individual will receive the same score from the device if their talents remain the same or if the element being evaluated remains unchanged even after being measured multiple times using the same instrument. Finding the alpha coefficient, sometimes referred to as Cronbach Alpha, for each construct and the total instrument indicates a measure's dependability. The degree of reliability associated with Cronbach's Alpha (α) increases with its proximity to 1.0. The scale is considered acceptable if the value of α exceeds 0.7.

3.5.3 Correlation

The statistical technique of correlation analysis is used to determine whether or not there is a link between two variables or datasets and the potential strength of that association. Besides that, correlation analysis also can be defined as a used to analyze quantitative data collected from research methods such as polls and surveys to determine whether the two variables have any meaningful correlations, patterns, or trends. Correlation analysis is essentially used to seek for patterns within a data collection. When two variables are correlated positively, it indicates that they grow together, however when they are correlated negatively, one variable fall while the other grows.

4. Data Analysis and Results

Data analysis is the process of refining, transforming, and structuring data to uncover valuable insights for informed decision-making. Its primary goal is to derive meaningful information from collected data, addressing research questions and study objectives. In this chapter, information was gathered through a questionnaire, and a thorough analysis of the data was conducted using Statistical Package for Social Sciences (SPSS) version 27.

4.1 Reliability analysis

Cronbach's Alpha was employed in this study to evaluate the data's internal consistency and dependability. Cronbach's Alpha readings should, in theory, range from 0 to 1, but they can potentially indicate a negative number, which indicates inaccurate data. As a general rule, a Cronbach's alpha of 0.70 and higher is regarded as good, 0.80 and higher as better, and 0.90 and higher as the ideal value.

4.1.1 Pilot test

Table 1 *Reability test of pilot study*

Variable	Cronbach's Alpha	N-Items in Scale	N-Respondents
Supplier Integration	0.712	5	30
Internal Integration	0.701	5	30
Operational Performance	0.781	5	30
Logistic Flexibility	0.755	5	30

Table 1 shows the reliability test of pilot study. In this study, pilot test has been conducted for 30 respondents to test the reliability of the data. There are two independent variables which are Supplier Integration and Internal Integration while two dependent variables are Operational Performance and Logistic Flexibility. Based on Table 1, the Cronbach's Alpha for Supplier Integration, Internal Integration, Operational Performance and Logistic Flexibility are 0.712, 0.701, 0.781 and 0.755 respectively. The result show that the Cronbach's Alpha for all variables is considered good since the value of Cronbach's Alpha is more than 0.7. Hence, the researcher can proceed with collection.

4.1.2 Actual Test

Table 2 *Reability test of actual study*

Variable	Cronbach's Alpha	N-Items in Scale	N-Respondents
Supplier Integration	0.679	5	95
Internal Integration	0.739	5	95
Operational Performance	0.735	5	95
Logistic Flexibility	0.767	5	95

The reliability test results for each variable in the actual investigation are displayed in Table 2. The survey involved 95 respondents in total, all of whom were workers at a logistic service provider located in Johor. Table 4.1 shows that the Cronbach's Alpha values for, Supplier Integration, Internal Integration, Operational Performance and Logistic Flexibility are, in order, 0.679, 0.739, 0.735, and 0.767. The outcome demonstrates that the reliability test for the real study is good to somewhat acceptable, indicating the reliability of the actual study.

4.2 Demographic background

Table 3 *Summary of demographic background*

Item		Frequency	Percentage (%)
Gender	Female	37	38.9
	Male	58	61.1
Age	20-30 years old	7	7.4
	30-40 years old	32	33.7
	Above 40 years old	56	58.9
Job Position	Chief Executive Officer (CEO)	0	0.0
	Chief Supply Chain Officer (CSCO)	0	0.0
	Executive Vice President of Supply Chain (EVPSC)	27	28.4
	Senior Vice President of Supply Chain (SVPSC)	27	28.4
	Vice President of Supply Chain (VPSC)	18	18.9
	Supply Chain Manager	10	10.5

	Logistic Manager	13	13.7
	Other	0	0.0
	Below 1 year	6	6.3
Years of Experience	1 to 5 years	23	24.2
	6 to 10 years	29	30.5
	Above 10 years	37	38.9

4.3   Normality Test

Table 4 *Normality test*

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig
Supplier Integration	.224	95	.000	.845	95	.000
Internal Integration	.248	95	.000	.823	95	.000
Operational Performance	.242	95	.000	.848	95	.000
Logistic Flexibility	.268	95	.000	.817	95	.000

The results of the Kolmogorov-Smirnov normality test, which determines whether or not the study's data has a normal distribution, are displayed in Table 4. To test the data analysis, 95 respondents are included in this part. The result of normality indicates that the data collected for all independent variable which are Supplier Integration and Internal Integration are not normal because the significant value below 0.05. While the dependent variable which is Operational Performance and Logistic Flexibility are not normal where the significant value 0.000 which means that it is below 0.05. Therefore, all variables for normality test are assumed as a not normal distribution and non- parametric test was used.

4.4   Correlation analysis

Table 5 *Summary of correlation analysis*

		Operational Performance	Logistic Flexibility
Supplier Integration	Correlation coefficient	.720**	.748**
	Sig. (2-tailed)	0.000	0.000
	N	95	95
Internal Integration	Correlation coefficient	.820**	.807**
	Sig. (2-tailed)	0.000	0.000
	N	95	95

5.   Discussion

The study's findings demonstrate that employees at logistic service providers have engaged in supplier integration. Every one of the five supplier integration elements is high level, according to the data analysis. Supplier integration has a total average mean of 4.70 and a total average standard deviation of 0.488, both of which indicate a high degree. The results proved that the respondents agreed that supplier integration is important in logistic service provider. Previous studies have stated that, supply chain integration is of strategic and operational importance, but the role of the LSP in supply chain integration is not entirely clear (Fabbe-Costes & Roussat, 2011). By working together, employees can create a more efficient, responsive, and resilient supply chain, ultimately enhancing customer satisfaction and business competitiveness.

With a mean of 4.67 and a standard deviation of 0.517, the degree of internal integration among logistic service provider personnel is very high. This indicates that a majority of the participants agreed on the significance of internal integration. The respondents' answers showed that internal integration had the biggest impact on SCP out of the three integration types utilised by 3PLs: customer, internal, and logistics collaborator integration. (Liu & Lee, 2018). This suggest that employees in logistic service provider believe that by aligning internal processes with the capabilities of the LSP, companies can achieve greater efficiency, improve customer service, and gain a competitive edge. This proved that when internal integration increases, employees are more efficient in evaluating themselves in terms of the quality of work performed.

The data in this area demonstrates that workers in the logistic industry are performing at a very high operational level. Overall, the operational performance standard deviation and average mean are 0.552 and

4.63, respectively. These result shows that it can be utilized to inculcate operational performance among employees in logistic service provider as improved operational performance in one LSP can lead to better efficiency and lower costs for their partners, creating a domino effect within the supply chain. When all LSPs perform well, deliveries are timely, accurate, and cost-effective, leading to happy clients and greater retention. Operational performance is the single most important factor in engendering LSP. The research supports the strong relationship between Operational performance and LSP identified in previous studies from Colicchia *et al.* (2013).

Based on the result, the total average of mean and standard deviation for logistic flexibility is 4.68 and 0.515 respectively which clearly seen that it is at the high level. This reflects that employees in logistic service provider moderately practice the logistic flexibility. Studies show that logistic flexibility plays a crucial role in building strong and successful relationships with clients and can be a significant source of competitive advantage for logistics service providers (LSPs) (Barad & Even Sapir, 2003). Thus, a focus on logistic flexibility enables LSPs to be more adaptable, customer-centric, and competitive. This, in turn, leads to stronger relationships with clients, ultimately contributing to success in the dynamic logistics industry.

The study discovered a positive correlation between supply chain performance and integration based on the data analysis that was done. Spearman's correlation coefficient has a value of r=0.820. The supply chain performance and supply chain integration have a strong and positive link, as indicated by the correlation coefficient. As a result, every hypothesis is accepted. The study's conclusion suggests that when a supply chain's different stages are successfully integrated, a number of performance metrics significantly improve. This is due to the fact that integration promotes improved chain-wide coordination, communication, and visibility, all of which have positive effects. Prior research has also noted that most surveys indicate a favourable correlation between SCI and SCP. (Ram Janm Singh *et al.*, 2013).

6. Conclusion

6.1 Limitations of research

There were certain restrictions on this study. The primary constraint was the online questionnaire data collection approach. The study's questionnaire was inexpensive and completed in a straightforward manner. The response rate would be impacted, nevertheless, by some respondents' refusal to complete the questionnaire.

Next, there were time limitations for data collections. The survey take a long time to collect data from respondents although using an online based approach. Since the study should be completed in a short period of time, the researchers distributed the questionnaire one month in advance to get the number of respondents who met the study target of 144 respondents. However, only 95 respondents' responses the questionnaire in the time given which is three month. Therefore, data collection should be started early so that the process of analyzing the data can begin immediately.

Aside from that, the accuracy of the findings represents a study constraint. Based on their opinions and experiences, the respondents were questioned about the statement that was derived from the questionnaire. As a result, it's possible that respondents purposefully gave ratings that deviate from reality. It could lead to some bias in the information gathered. To put it briefly, it is challenging to verify that the responses to the surveys accurately reflect the respondents' true behaviour.

6.2 Recommendation

There are a number of suggestions that can be made in this study to improve the research findings even more. First, in order to increase the response rate, the study's data collection period could be extended. This is so that more respondents or participants can be obtained by the researcher to take part in the study. When the researcher gets more respondents participants in this survey, more sample could be derived which mean that more diversity would be more beneficial to the results.

Besides that, future researcher should be replicated at different region or state. This research was only focused at Johor only, Thus, the result of the data collected cannot be generalized to other studies. Hence, the future researcher should try their best in getting more respondents in their research to increase the validity and reliability of the data collected.

Finally, it is suggested that a combination of qualitative and quantitative methods be used in future research. This is due to the fact that the quantitative method used in this study solely used numerical data for the questionnaire. However, the qualitative technique can handle more subjective words. Future researchers will provide respondents the opportunity to offer their own opinions about the research when they use qualitative methods like interviews. In summary, the combination of methods may provide the study with more specifics and useful information.

6.3 Summary

In summary, the study established the correlation between two variables. Aside from that, the study was conducted to meet the objectives set forth by the researchers in order to figure out how supply chain performance and integration relate to one another. All four theories had, on the whole, been proven correct. In particular, there is a strong correlation between supply chain integration and performance. Hence, it can be concluded that supply chain integration could influence on supply chain performance among employees in logistic service provider. Moreover, the future researcher should conduct this study in different scope of study such as different region or states to increase the validity and reliability of the data collected.

Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

Author Contribution

The authors confirm contribution to the paper as follows: **study conception and design:** I.I.M. and F.H.; **data collection:** I.I.M.; **analysis and interpretation of results:** I.I.M. and F.H.; **draft manuscript preparation:** I.I.M. and F.H. All authors reviewed the results and approved the final version of the manuscript.

References

Adhitama, J. (2020). The Influence of Work Environment on Employee Engagement and Employee Motivation at PT Koexim Mandiri Finance. *Julyan Adhitama*. https://www.academia.edu/42818538/The_~Influence_of_Work_Environment_on_Employee_Enga gement_and_Employee_Motivation_at_PT_Koexim_Mandiri_Finance

Altay, N., Gunasekaran, A., Dubey, R., & Childe, S. J. (2018). Agility and resilience as antecedents of supply chain performance under moderating effects of organizational culture within the humanitarian setting: a dynamic capability view. *Production Planning & Control*, *29*(14), 1158–1174. https://doi.org/10.1080/09537287.2018.1542174

Barad, M., & Even Sapir, D. (2003). Flexibility in logistic systems—modeling and performance evaluation. *International Journal of Production Economics*, *85*(2), 155–170. https://doi.org/10.1016/s0925-5273(03)00107-5

Bode, C., & Wagner, S. M. (2015). Structural drivers of upstream supply chain complexity and the frequency of supply chain disruptions. *Journal of Operations Management*, *36*(1), 215–228. https://doi.org/10.1016/j.jom.2014.12.004

Brusset, X., & Teller, C. (2017). Supply chain capabilities, risks, and resilience. *International Journal of Production Economics*, *184*, 59–68. https://doi.org/10.1016/j.ijpe.2016.09.008

Carlos, Susana Garrido Azevedo, & Pimentel, C. (2021). *Sustainable Industrial Engineering along Product-Service Life Cycle/Supply Chain*. MDPI.

Cherikh, M., Gopalan, S., & Asree, S. (2018). The impact of supply chain responsiveness and strategic supply chain collaboration on innovation performance. *International Journal of Business Performance and Supply Chain Modelling*, *10*(2), 131. https://doi.org/10.1504/ijbpscm.2018.10019698

Colicchia, C., Marchet, G., Melacini, M., & Perotti, S. (2013). Building environmental sustainability: empirical evidence from Logistics Service Providers. *Journal of Cleaner Production*, *59*, 197–209. https://doi.org/10.1016/j.jclepro.2013.06.057

Fabbe-Costes, N., & Roussat, C. (2011). Supply Chain Integration: Views from a Logistics Service Provider. *Supply Chain Forum: An International Journal*, *12*(2), 20–30. https://doi.org/10.1080/16258312.2011.11517257

Giovannini, M., & Psaraftis, H. N. (2018). The profit maximizing liner shipping problem with flexible frequencies: logistical and environmental considerations. *Flexible Services and Manufacturing Journal*, *31*(3), 567–597. https://doi.org/10.1007/s10696-018-9308-z

Hong, J., Liao, Y., Zhang, Y., & Yu, Z. (2019). The effect of supply chain quality management practices and capabilities on operational and innovation performance: Evidence from Chinese manufacturers. *International Journal of Production Economics*, *212*, 227–235. https://doi.org/10.1016/j.ijpe.2019.01.036

Joffa - Johor Freight Forwarders Association. (n.d.). Joffa.net. Retrieved November 30, 2023, from https://joffa.net/

Kaliani Sundram, V. P., Chandran, V., & Awais Bhatti, M. (2016). Supply chain practices and performance: the indirect effects of supply chain integration. *Benchmarking: An International Journal*, *23*(6), 1445–1471. https://doi.org/10.1108/bij-03-2015-0023

Kazemian, I., & Aref, S. (2016). Multi-echelon Supply Chain Flexibility Enhancement Through Detecting Bottlenecks. *Global Journal of Flexible Systems Management*, *17*(4), 357–372. https://doi.org/10.1007/s40171-016-0130-8

Liu, C.-L., & Lee, M.-Y. (2018). Integration, supply chain resilience, and service performance in third-party logistics providers. *The International Journal of Logistics Management*, *29*(1), 5–21. https://doi.org/10.1108/ijlm-11-2016-0283

Liu, H., Wei, S., Ke, W., Wei, K. K., & Hua, Z. (2016). The configuration between supply chain integration and information technology competency: A resource orchestration perspective. *Journal of Operations Management*, *44*, 13–29. https://doi.org/10.1016/j.jom.2016.03.009

Muhammad, S., & Kabir, S. (2016). *METHODS OF DATA COLLECTION*.

Omar, A., Davis-Sramek, B., Myers, M. B., & Mentzer, J. T. (2022). A Global Analysis of Orientation, Coordination, and Flexibility in Supply Chains. *Journal of Business Logistics*, *33*(2), 128–144. https://doi.org/10.1111/j.0000-0000.2012.01045.x

Ram Janm Singh, Nagendra Sohani, & Hemant Marmat. (2013). Supply Chain Integration and Performance: A Literature Review. *Journal of Supply Chain Management Systems*, *2*(1), 37–48.

Ringel, M., Martin, L., Hawkins, C., Panier, V., Denslow, M., Buck, L., & Schulze, U. (2016). What drives operational performance in clinical R&D? *Nature Reviews Drug Discovery*, *15*(3), 155–156. https://doi.org/10.1038/nrd.2016.2

Roslan, N. A. A., Wahab, E., & Abdullah, N. H. (2015). Service Quality: A Case Study of Logistics Sector in Iskandar Malaysia Using SERVQUAL Model. *Procedia - Social and Behavioral Sciences*, *172*, 457–462. https://doi.org/10.1016/j.sbspro.2015.01.380

Scholten, K., & Fynes, B. (2016). Risk and Uncertainty Management for Sustainable Supply Chains. *Sustainable Supply Chains*, 413–436. https://doi.org/10.1007/978-3-319-29791-0_19

Ślusarczyk, B., Nathan, R. J., & Pypłacz, P. (2021). Employee Preparedness for Industry 4.0 in Logistic Sector: A Cross-National Study between Poland and Malaysia. *Social Sciences*, *10*(7), 258. https://doi.org/10.3390/socsci10070258

Srivastava, G. (2021). Foreword: Special issue on blockchain for logistic industry. *Applied Stochastic Models in Business and Industry*, *37*(3), 389–390. https://doi.org/10.1002/asmb.2632

Valdez-Juárez, L., Gallardo-Vázquez, D., & Ramos-Escobar, E. (2018). CSR and the Supply Chain: Effects on the Results of SMEs. *Sustainability*, *10*(7), 2356. https://doi.org/10.3390/su10072356

Zhao, X., Pan, J., & Song, Y. (2018). Dependence on Supplier, Supplier Trust and Green Supplier Integration: The Moderating Role of Contract Management Difficulty. *Sustainability*, *10*(5), 1673. https://doi.org/10.3390/su10051673