Impact of Supply Chain Integration on Organizational Performance

Syed Taha Hassan [1*]

*[*1] Faculty of Business Administration, Iqra University, Karachi, Pakistan*

Corresponding email: taha.14264.ac@iqra.edu.pk

ABSTRACT

This investigation assessed the association between factors of supply chain integration and organizational performance by including supply chain dimensions (internal supply chain process lean practices, technology compatibility, quality of information sharing). A qualitative research method was adopted to explain the effect of independent variables on dependent variables. Data was collected using a questionnaire through a random sampling technique. The analysis was performed utilizing SPSS version 25. This research provides a unique picture of how important the independent variables are for better organizational performance. Where two hypotheses were rejected, and two were accepted. The results are substantial for manufacturing organization managers to improve supply chain integration and achieve a competitive position in the industry by enhancing their organizational performance.

Keywords: Supply chain management, Internal supply chain process, Lean practices, Technology compatibility, Quality of information, Information sharing

Impact of Supply Chain Integration on Organizational Performance

1. Introduction

1.1 Background of the Study

Individual businesses are no longer defended as individual companies but preferably as part of the well-defined supply chain in the distinctly aggressive business environment (Carter et al., 2015; Rashid et al., 2023). In such an energetic business environment, supply chain members collaborate capabilities, and resources have been shared with up-slope and down-slope supply members to achieve the optimum benefits (Patnayakuni et al., 2006). Stocking the master plan and facilitates and resources into the firm is not likely to show significant value to any company or organization as those only can form a position when shared with supply members (Revilla & Knoppen, 2015; Rashid & Rasheed, 2023).

As per Revilla and Knoppen (2015), the shared information and data are transformed into vital proficiency and the, in the end, drive the highest output. For that reason, adapting the supply chain sprint motive and collaborating process and practices throughout the supply chain can make effective and efficient use that could bring superiority in supply chain performance (Devaraj, 2007; Eriksson, 2015; Prajogo, 2016; Rasheed et al., 2023). For example, information sharing regarding the preference of the customer or consumer and the consumption flow or cycle highlighted at the point of sale by down-slope supply chain members like retailers could play a role in bringing up-slope supply chain members to renewing their making and distributing ideas (Fawcett., 2007; Rashid et al., 2022a). Thus, resource sharing across the supply chain and capabilities sharing have become increasingly important as it improves the supply chain skills needed to get the company's level of sustainability and completion (Patnayakuniet al., 2006). Supply chain abilities are considered manufacturing blocks for supply management & main factors of firm success and durability (Morash, 1996; Rashid et al., 2022b). Such supply chain capabilities can force via collaboration of supply chain flow throughout the supply chain member, which could upgrade the supply chain flexibility and validity (Ponomarov, 2009; Zhao, 2010)). In addition, supply chain flow collaboration makes a sensible belonging between chain partners, reflecting the other partners as more well-established and worthwhile individuals of that transparent supply network (Bagchi, 2002; Skipworth, 2015; Hashmi et al., 2021a). Therefore, the following research question will seek answers for this research.

RQ1. What aspects of supply chain integration affect organizations?

1.2 Research Objective

They investigate the effect of supply chain integration on the organization's performance and also identify the link between supply chain integration and organizational performance

1.3 Purpose of Research

The main reason for this research is to find out the effect of supply chain abilities as a mediator on firms' performance and supply chain process collaboration. The following is how the organized as follows. Significant writing is audited and merged before conducting research to create a calculated model. The introduction of the results follows the discussion. Finally, the topic of conclusion and recommendation is discussed.

1.4 Significance

The reason for analyzing the supply chain from the collaborative point of view is valuable in improving the supply chain execution. Al thought advanced logistics and supply chain literature had determined the impact of supply chain collaboration on administration, function and supply chain performance (Zhao, 2010; Rashid et al., 2023; Patnayakuni et al., 2006); specific attention has been

given to how to analyze the collaboration in the process flow of supply chain through the abilities of supply chain management. Some researchers have specially asked for more facts on how different chain processes collaborate and in which standards they are in contact and interact with one another and resulting in the organizational performance outcome (Eriksson, 2015). Previous study shows that competitive advantage and organizational performance could keep the supply chain process and firm performance in line. However, the study investigates factors that could be scarce in investigating the contribution to making supply chain flow collaboration (Huo, 2012).

The study identifies differences in supply chain participants' technology business objectives, data exchange, and supply chain process cooperation standardization (Clacomb, 2005; Finley, 2005). The growth of in-process supply chain integration can also be hampered by variations in supply chain participants' cultures and functional practices (Clacomb, 2005; Holcomb, 2012). So, it is necessary to ensure tech, functional, and cultural similarities among supply chain members eager to collaborate in their supply chain process to reduce such discrepancies (Marshall & Cao, 2013). Further research on the technological, functional, and cultural similarities in supply chain flow integration is also required. So the present study responds to calls from the prior studies for observable work on how technical, functional, and cultural chain processes integrate to give a variety of supply chain and firm perks and benefits to supply chain members. Other researchers have analyzed the challenging results (Armistead & Mapes, 1993). The results of those researchers have revealed the integration and form performance.

The conflicted results also advised that the other factors that influence the link between supply chain process integration and performance. Curiously observes that the desired abilities like the product, quality delivery reliability and cost leadership mediate the impact of supply chain integration on a firm's performance (Rosenzweig & Dean, 2003). Likely (Chen & Roath, 2009; Rasheed & Rashid, 2023) presented a conceptual model with the linkage relation of supply chain integration, abilities and performance and proposed more research to analyze the bond between logistics and supply chain collaboration and organization-level desired performance. Using aggressive and adaptable ability, consistent theories, and the theoretical framework, we are forming the study gap seen by the above researchers (Chen & Roath, 2009; Hashmi et al., 2021b; Rosenzweig & Dean, 2003).

1.5 Outline of Study

As a result, we proposed that supply chain capabilities serve as a mediator in the relationship between supply chain integration and organizational performance. Here, we can see the research gap suggested by Rajaguru and Matanda (2013) and examine the hitherto unstudied effects of the inter-organizational ability dimension on supply chain flow collaboration. Also, we responded to requests for more research and analysis, mainly focusing on the effect of particular supply process integration standards on businesses' production (Eriksson, 2015). First, research observes the ability of chain flow collaboration on the firm's performance. The research also analyzes the direct impact of supply chain process collaboration on firms' performance and its indirect effect via supply chain abilities.

2. Literature Review

2.1 Organizational Performance

Businesses and firms strive for ruthless benefits and top-tier organizational performance in highly volatile environments (Morash, 1996; Hashmi et al., 2020a). The vital role of supply chain management in improving the performance of businesses has been evaluated as a result of extensive supply chain research, notably the influence of supply network collaboration and supply chain capabilities on efficient organizational performance. Some analysts have combined these factors with financial performance (Huo, 2012; Rosenzweig & Dean, 2003), and others have linked market-based factors with financial performance (Zhao, 2010; Yen & Hung, 2017; Hashmi et al., 2020b). SCM scholars have also looked into supply chain management's crucial role in increasing organizational performance. SCM researchers typically see and measure a firm's performance as being made of systematical and eruptive performance dimensions (Fawcett., 2007). To enhance organizational performance, they have also investigated the critical role of supply chain management. Supply chain

partners with suitable systems, processes and procedures could share abilities and facilities in real-time, enhancing the function, performance and competitiveness throughout the supply chain (Clacomb, 2005; Fawcett., 2007). the availability of the right product has been assured by the integration of such a compatible supply chain process, which effect the right time to the right customer at a competitive price (Angeles, 2009), therefore updating the supply chain function and aggressive performance (Finley, 2005; Fawcett., 2007; Rashid et al., 2020)

2.2 Supply Chain Process Integration

The supply chain integration process is defined as the cooperation and teamwork between supplier partners that create a network (Hung, 2017; Patnayakuni et al., 2006) believed that the degree of interaction between the focus organization and its partners is determined by how the supply chain is integrated. It can be essential to create diverse supply chains in order to increase their effectiveness and efficiency (Ellram & Cooper, 2014). A supply chain perspective is usually helpful in coordinating upstream and downstream activities, such as information exchange, physical transportation, and resource automation, to ensure that the proper product is present for the right consumer (Chen & Roath, 2009). Information sharing, physical flow collaboration, and financial flow collaboration are the three components of the tri sub-constructs that make up the second-order construct known as integration in earlier studies (Angeles, 2009) (Patnayakuni et al., 2006). Information flow collaboration across the supply chain process is critical in accommodating the supply chain process, to which operational, strategic, and tactical information is shared (Angeles, 2009) (Patnayakuni et al., 2006). Information sharing within the supply chain is essential since it allows for collaboration and shared practices amongst supply chain activities. When operational information is shared tactically, strategically, and through integration with the leading organization's performance (Li, 1999), as well as the performance of the entire supply chain, improvements can be made (Patnayakuni et al., 2006). Accurate and current marketing data and information at every node are essential for the success of the entire supply chain (Childhouse & Towill, 2003).

2.3 Empirical Reviews

By properly aligning supply chain management flow across the supplier members, the source of lasting competitive advantage and challenging to replicate can be achieved (PrajogoOke & Olhager, 2016). If there is integration between supply chain members for information sharing is possible to share seamless data and information (Li, 1999).it is also enabled to share the data of different components that include forecasting, demand planning and sales data, and also the change of consumption pattern, efficiency and efficacy of upstream and downstream supply chain participants in supply chain management (Kim, 2006). This research has offered metrics for providing both operational and strategic information.

Actual stream coordination is how much a central association and its production network accomplices together using material improvement cycles and techniques in the production network to oversee work-in-process stock and the progression of materials and completed merchandise (Patnayakuni et al., 2006). Hence, the stream mix works with upstream and downstream development of materials and completed products. Upstream store network processes, for example, buyers and retailers returning harmed items to makers and makers reviewing items that do not fulfil industry guidelines, are productively and overseen through well-Supply chain process incorporation.

For downstream production networks, the executives, actual stream incorporation upholds in the nick of time conveyance (Lowson, 2001), programmed renewal, merchant stock control, decrease of security stock and rack space usage (Ellinger, 1999; Hoek, 2000). Monetary stream coordination is how much the trading of monetary assets between a central association and its store network accomplices is driven by mix (Patnayakuni et al., 2006; Baloch & Rashid, 2022). An electronic and data frameworks empowered coordinated production network brings about rearranging and justifying the sharing of monetary assets between inventory network accomplices (Patnayakuni et al., 2006; Rashid & Rasheed, 2022). In any case, associations frequently wonder whether or not to coordinate

their monetary frameworks with upstream and downstream production network accomplices (Patnayakuni et al., 2006), even though these will probably improve their abilities and work with exchanges across the store network.

Those characteristics, knowledge, and skills that enable the organization to achieve exceptional performance and sustain competitive advantage over others" is how abilities are defined (Morash, 1996). According to (Chen & Roath, 2009), "Supply chain skills "provide an important association among supply chain process collaboration and forms performance." The ability of a company to use internal and external resources in conjunction with production network execution is referred to as supply chain network capacities (Wu & Smart, 2013). Establishes supply chain processes and is accountable for responding to supply chain participants' requests and end-user needs (Wu & Smart, 2013). In the present research, in line with (Wu & Smart, 2013), we understand supply chain capabilities as a second-order primary comprising information and supply chain collaboration and responsiveness to current research.

2.3.1 Internal supply chain process (ISCP)

In supply chain management, ISCP, also known as delay, refers to the act of carrying out at least two actions, such as making, getting, and conveying to a far later stage (Johnson & Davis, 1998; Naylor & Berry, 1999; Hoek, 1998). One of the researchers finds that developing a deferment plan is necessary, for instance, by calculating how many steps an organization must postpone and which actions they must postpone (Beamon, 1998). The benefit of postponement for businesses is that they have extra time to modify the client's needs and the demand function. The impact of ISCP on organizational performance is favourable (Wijetunge, 2017).

- *H1: There is a significant effect of ISCP on OP.*

2.3.2 Lean practice (LP)

Lean practices (LP) developed a method of reducing waste in the production flow, including time and resource waste. A management philosophy, a work culture, and a technique can all be considered components of a lean practice (Wilson & Roy, 2009). Lean practices are currently the methods that management creates for all of the firm's processes at every step. The lean technique helps eradicate all waste, stop shortages, minimize lead time, enhance stock turnover, and ensure customer satisfaction. The lean methodology positively impacts the company's performance and growth (Wijetunge, 2017).

- *H2: There is a significant effect of LP on OP.*

2.3.3 Technical compatibility (TC)

Shared experience, values, rules and business strategies have been referred to by the compatibility shared by supply chain members. The relation and synergies between partnering organization's abilities have also given compatibility recognition (Sarkar, 2001). As per congruency theory, there is a need to enhance supply chain relations through compatibility among partnering organizations (Mitsuhashi & Greve, 2009). Compatibility is defined and elaborated as a multidimensional construct in prior studies that constructs are composed of technical and technological fit cultural fit, and process (operational) fit (Claycomb, 2009; Li, 1999). We notice compatibility as a tri-component in the present/ current research that it is composed of technical, operational and cultural compatibility. In systems and processes, technical compatibility reflects congruency that is used between supply chain partners as point-of-sale terminal business process and technology & ISN (information system network) (Li, 1999). According to them, in the technical process of partnering organizations, the technical compatibility is made from identical constructs. Operational compatibility in capabilities are similar and are in procedural issues that assume salience across the supply chain trust, commitment and information exchange has been facilitated by such operational compatibilities (Sarkar, 2001; Claycomb, 2009). Traditions, subjective norms, beliefs, and values have been referred to as

cultural compatibility (Buono, 1985). When firms attempt to meld their cultures with supply chain partners during the flow of integration and hold incompatible values, norms, and beliefs, the business could collapse (Sarkar, 2001). Strife and suspicion have been created by cultural compatibility among the supply chain members.

Both data frameworks and supply chain studies highlight the importance of congruency or fit in functional cycles of collaborating members or supply chain networks (Claycomb, 2009; Sarkar, 2001; Wu & Smart, 2013). Functional complexity frequently affects how supply chain participants share information and materials (Wu & Smart, 2013). This emphasizes the necessity of functional similarity among supply chain participants (Sarkar, 2001). Functional similarity can improve alliance advancement and flow collaboration throughout the supply chain (Claycomb, 2009; Wu & Smart, 2013). Encourage supply chain participants to integrate their tasks to improve the efficiency of coordinated operations and supply chain performance. Thus, consistency in operating cycles is crucial for adopting supply chain processes (Claycomb, 2009; Wu & Smart, 2013).

- *H3: There is a significant effect of TC on OP.*

2.2.4 Quality of information sharing (QIS)

QIS consists of on-time, accurate, credible final credibility of the information delivered (Moberg & Speh, 2002); (Monczka, 1998). Also, the importance of information sharing and its effects on the supply chain process depends on how, when, and with whom information is exchanged (Chizzo, 1998; Holmberg, 2000; Rashid, 2016). In light of this, "organizations need to focus on their key information as an organizational asset and ensure that information has been transmitted with the least delay and distortion" (Li, 1999). The QIS has a good effect on OP (Li, 2006).

Lean practices, technology compatibility, information sharing quality, and internal supply chain processes are considered to be the primary components of supply chain integration that favour organizational performance. Hence, the following hypothesis was developed:

- *H4: There is a significant effect of QIS on OP.*

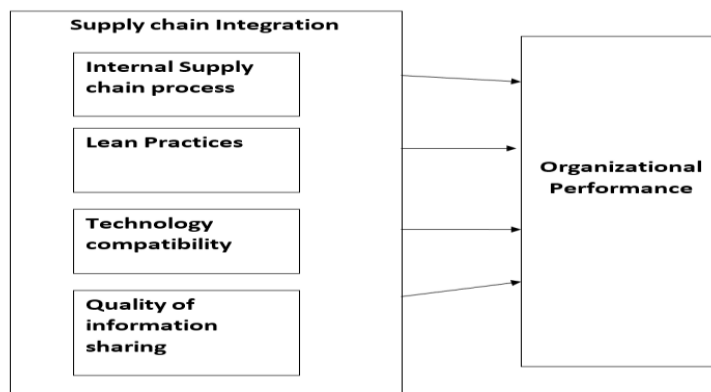Figure 1 illustrates the research model of this research.

Figure 1: Research model

Source: Literature (author's creation)

3. Research Method

The approach selected is the "deductive approach" since, in this study, the theory will be tested. In the deductive approach, the research selected for this study is "explanatory research" because, in this study, there is a connection between supply chain integration and organizational performance (Rashid et al., 2021; Khan et al., 2023a, b). The design chosen for this study is the "regression analysis"

"because, in this paper, the relationship and significance of organizational performance and supply chain integration will be compared (Hashmi & Mohd, 2020; Khan et al., 2022)

For collecting information, sampling is implemented in this research. The target population is the collection of people from whom the data is gathered to compute and analyze the precise information. In this research, the supply chain professionals of the manufacturing sector belonging to Pakistan-based organizations are the target population (Khan et al., 2021; Haque et al., 2021). The sample size chosen for this study is "150-sample size", which means 150 responses will be collected for this study." The sampling technique implemented in this paper was "probability sampling". In probability sampling, a technique used in this research is the "simple random sampling". The tool that will be used in the data collection of this study is the "Questionnaire". With the help of the questionnaire tool, the data of this study will be collected. The statistical technique for this study will be "regression analysis" and it will be analyzed through SPSS software and test the hypotheses.

4. Results

Survey research was conducted using inductive and research-based approaches as the primary research method. Various data-gathering option was taking place, including primary and secondary sources. The survey was adopted and distributed to 150 different employees working in different Karachi-based and related organizations of supply chain management activities. SPSS (Version 25) was used to analyze and identify the data collection and its meaningful information (Das et al., 2021; Alrazehi et al., 2021; Agha et al., 2021). After coding the data and identifying the missing variables, the following analytical techniques were used to achieve the purpose of the study. These analytical techniques are described in the next section.

4.1 Reliability

The reliability of the configuration used in this study was measured using Cronbach's alpha. This test is suitable for measuring the internal consistency of equipment. It also reduces dataset bias and error. Response uniformity is also tested by reliability analysis. Standardized coefficients in the range of 0.6 to 0.70 are considered acceptable, while Good standardized coefficients are those above 0.8 (Cronbach, 1951; Rashid et al., 2019). Which is shown in Table 1.

Table 1: Reliability Statistics

variable	Cronbach's Alpha	N of Items
QIS	0.667	4
TC	0.667	4
Internal supply chain process	0.427	4
Lean practices	0.64	4

Source: SPSS output

The Cronbach's Alpha value of the variables is 0.6 or near to, which is not greater than but near 0.70, which shows that the data is reliable and acceptable (Rashid & Amirah, 2017).

4.2 Descriptive Statistics

An overview of the data set is provided through descriptive analysis. The mean, median, centre tendency range, variance, and standard deviation are all reported in the descriptive analysis report. The mean and standard deviation in this study are reported using descriptive analysis. Which is shown in Table 2

Table 2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
QIS_AVG	150	2.50	4.75	3.7433	.64957	.009	.198
SI_AVG	150	2.6	4.8	3.753	.5804	.180	.198
TC_AVG	150	1.67	5.00	3.7222	.92154	-.288	.198
ISCP_AVG	150	2.25	5.00	3.8950	.62004	-.081	.198

OP_AVG	150	1.8	4.8	3.507	.6966	-.083	.198
Valid N (listwise)	150						

Source: SPSS output

In the above table 2 descriptive statistics table, the mean of organizational performance is 3.507, the standard deviation of organizational performance is .6966, and the total number represented by n is 150. The mean value of supply chain integration is 3.7, by an average of each and the standard deviation value is .69 with the average of the same, and the total number n is 150.

4.3 Correlation Analysis

The strength and extent of the relationship between the two variables are assessed by correlation analysis. Karl Pearson is often used to describe how two variables relate to one another. The R-value range for Pearson is 1. Moreover, (+1) and (-1) are regarded as the most substantial positive and negative relationships, respectively, while zero denotes that the link is irrelevant (Rasheed, 2022), which is shown in Table 3.

Table 3: Correlations

		QIS_AVG	SI_AVG	TC_AVG	ISCP_AVG	OP_AVG
QIS_AVG	Pearson Correlation	1	.778**	.753**	.757**	.735**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	150	150	150	150	150
SI_AVG	Pearson Correlation	.778**	1	.673**	.666**	.716**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	150	150	150	150	150
TC_AVG	Pearson Correlation	.753**	.673**	1	.690**	.696**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	150	150	150	150	150
ISCP_AVG	Pearson Correlation	.757**	.666**	.690**	1	.857**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	150	150	150	150	150
OP_AVG	Pearson Correlation	.735**	.716**	.696**	.857**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	150	150	150	150	150

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

Source: SPSS output

In the above correlation table 3, the value of Pearson correlation is more significant than 0.7, which shows a moderate relationship between an independent and dependent variable. Sig. (1-tailed) value is .000, meaning it is lower than 5% significance (Hashmi, 2023). The N value represents the total sample size, which is 150.

4.4 Regression Analysis

Measurements of relationships between variables are made using regression analysis. It aids in determining whether there is a relationship between two or more variables for researchers. It also demonstrates the relationship's sturdiness, organization, and form. Correlation and regression analyses are different in that the former establishes the correlation or association between two variables. At the same time, the latter reveals the numerical relationship between the independent and dependent variables. While regression offers the best line fit and calculates the influence of one variable on the other, correlation illustrates the linear relationship between two variables. As a result, the regression has at least one independent variable and one dependent variable, whereas the correlation does not.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.882a	.779	.772	.3323	2.154

a. Predictors: (Constant), ISCP_AVG, SI_AVG, TC_AVG, QIS_AVG
b. Dependent Variable: OP_AVG

Source: SPSS output

In the above model summary table 4, adjusted R-square value of the variables is 0.772, which means 77% of the data fits in the regression model, which shows that 70% of the variance is explained.

Table 5: ANOVAᵃ

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	56.284	4	14.071	127.439	.000ᵇ
1	Residual	16.010	145	.110		
	Total	72.293	149			

a. Dependent Variable: OP_AVG
b. Predictors: (Constant), ISCP_AVG, SI_AVG, TC_AVG, QIS_AVG

Source: SPSS output

In the above ANOVA table 5, the regression sum of squares is 56.284, and the degree of freedom of regression is 4. The mean square of regression is 56.284, which is adequate. The F value of regression is 127.439, greater than 1, in which the null hypothesis is rejected. The Sig. regression value is 0.000, which is less than 0.05, which means the value is significant. The sum of squares of residual is 16.010, the degree of freedom of residual is 145, the mean square of residual is 0.110, and the total sum of squares is 72.293, which means a large number of variabilities is within the data set. The total degree of freedom is 149 (Hashmi, 2022a).

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.556	0.227		2.449	0.016
	QIS_AVG	0.788	0.06	0.735	13.19	0
1	(Constant)	0.28	0.261		1.072	0.285
	SI_AVG	0.86	0.069	0.716	12.487	0
1	(Constant)	1.548	0.171		9.053	0
	TC_AVG	0.526	0.045	0.696	11.795	0
1	(Constant)	-0.245	0.187		-1.309	0.193
	ISCP_AVG	0.963	0.048	0.857	20.273	0

Source: SPSS output

Table 6 shows that in Unstandardized coefficients, the B value of a constant is .735, 0.7160.696, and 0.857, which strongly affects the variables. In Unstandardized coefficients, the Std. The error value of a constant is .227, 0.261, 0.171 and 0.187, which means less the spread of the sample mean to the population mean. The t-value of the constant is 2.449, 1.072, 9.053, and -1.309, which is more significant than 1.96, which means the null hypothesis is rejected. The Sig. value of the constant is .000, which means it is less than .05, which means the value is significant. In Unstandardized coefficients, the B value of supply chain integration is .7 and more, which means it strongly affects the variables. In Unstandardized coefficients, the Std. The error value of supply chain integration is .06 or less, which means less the spread of the sample mean to the population mean. The Beta value is more than 0.6, which means it has a linear effect on the variables. The t-value is more than 10, which is greater than 1.96, which means the null hypothesis is rejected. The Sig. value is 0.000, which means it is less than 0.05, which means the value is significant (Hashmi, 2022b).

5. Discussion, Implications, Limitations, And Recommendations" Conclusion

5.1 Discussion

The findings and conclusions show how supply chain integration dramatically impacts thriving organizations' performance. Organizational performance is impacted by supply chain integration because it increases output by lowering problems and errors. The investigation shows that supply chain integration is crucial for improving organizational performance. The results corroborated earlier research showing that supply chain integration is essential and valuable for businesses and maintaining

IT systems for supply chain management. This aids organizations in achieving their objectives and improving their performance to produce better results. Regarding how intra-organizational connections and interactions between individuals and groups support, strengthen, and capitalize on this process to achieve competitiveness, Supply chain integration is seen as a strategy to obtain and maintain a competitive advantage. The results of hypothesis testing show that supply chain integration has a statistically significant effect on organizational performance. By integrating with its customers, a company can learn about market inefficiencies, environmental changes, and customer needs and wants. As a result, the firm develops original strategies for adapting to change, giving customers agency, and ultimately including them in accomplishing corporate goals. Furthermore, connecting with consumers enables businesses to distinguish successful from non-profitable clients, which benefits both parties (Haddad & Hornuf, 2019).

5.2 Implications

Supply chain integration implementation on organizational performance offers to improve performance and resolve the problems or faults appearing in its performances in the most recent times. Supply chain integration offers a mechanism for organizations to manage their inventories better so that there is always a balance between supply and demand elements. Supply chain integration improves organizational performance by boosting transparency capabilities and enhancing efficiency, productivity, and effectiveness by offering cutting-edge technology and sturdy storage equipment to minimize item damage. Providing cutting-edge technologies helps organizations perform better by enabling them to work more effectively. It aids in supplying the appropriate level of information sharing, quality, and best practices.

5.3 Limitations

This study has limitations that should have been addressed but could not be. Only 150 responders have been gathered due to time constraints, but the sample size can be expanded; however, this cannot be done given the limited time. The only analysis employed in this study is regression analysis; other analyses are permitted but are not necessary for this topic. Prior research on supply chain integration and organizational performance is scarce.

5.4 Recommendations

This study offers beneficial and practical suggestions for upcoming investigations into the relationship between organizational performance and supply chain integration. The study's findings and outcomes assist organizational performance in resolving difficulties by using supply chain integration methods and real-time transparent communication initiatives that lead to long-term operational gains. It also aids in demonstrating the connection between supply chain integration and organizational performance, as related research studies in this area show. It helps enterprises conserve their valuable time to operate successfully and efficiently.

5.5 Conclusion

According to the topic's conclusion, "The Effect of Supply Chain Integration on Organization Performance, " There is a considerable impact or significant association between supply chain integration and organization performance." The research also makes the topic's objective clear, demonstrating that the performance of organizations and the issues that have arisen in that performance are both significantly impacted by supply chain integration.

References

Agha, A. A., Rashid, A., Rasheed, R., Khan, S., & Khan, U. (2021). Antecedents of Customer Loyalty at Telecomm Sector. *Turkish Online Journal of Qualitative Inquiry, 12*(9), 1352-1374. https://www.tojqi.net/index.php/journal/article/view/5873/4175

Alrazehi, H. A. A. W., Amirah, N. A., Emam, A. S., & Hashmi, A. R. (2021). Proposed model for

entrepreneurship, organizational culture and job satisfaction towards organizational performance in International Bank of Yemen. *International Journal of Management and Human Science, 5*(1), 1-9. https://ejournal.lucp.net/index.php/ijmhs/article/view/1330/1399

Angeles. (2009). Anticipated IT infrastructure and supply chain integration capabilities for RFID and their associated deployment outcomes. *International Journal of Information Management, 29(3),* 219-231. https://doi.org/10.1016/j.ijinfomgt.2008.09.001

Armistead, & Mapes. (1993). The impact of supply chain integration on operating performance. *Logistics Information Management,* 9-14. https://doi.org/10.1108/09576059310045907

Bagchi, P. a.-L. (2002). Organizational integration in supply chains: a contingency approach. *Journal of Flexible Systems Management, 3(1)*, 1-10.

Baloch, N. & Rashid, A. (2022). Supply Chain Networks, Complexity, and Optimization in Developing Economies: A Systematic Literature Review and Meta-Analysis. *South Asian Journal of Operations and Logistics, 1*(1), 1-13. https://doi.org/10.57044/SAJOL.2022.1.1.2202

Beamon. (1998). Supply chain design and analysis Models and methods. *International Journal of Production Economics,* 281-294. https://doi.org/10.1016/S0925-5273(98)00079-6

Buono, A. B. (1985). When cultures collide: the anatomy of a merger. *Human Relations, 38(5)*, 477-500. https://doi.org/10.1177/001872678503800506

Carter, C.R., Rogers, D.S. and Choi, T.Y. (2015). Toward the theory of Supply chain. *Journal of Supply chain management, 51(2)*, 89-97. https://doi.org/10.1111/jscm.12073

Chen, H. D., & Roath, A. (2009). Defining and operationalizing supply chain process integration capabilities. *Journal of Business Logistics, 30(1),* 63-84. https://doi.org/10.1002/j.2158-1592.2009.tb00099.x

Childhouse, P., & Towill, D. (2003). Simplified material flow holds the key to supply chain integration. *OMEGA, 31(1),* 17-27. https://doi.org/10.1016/S0305-0483(02)00062-2

Chizzo. (1998). Supply chain strategies: solutions for the customer-driven enterprise. *Software Magazine, 9.*

Clacomb, C. I. (2005). Predicting the level of b2b e-commerce in industrial organizations. *Industrial Marketing Management, 34(3),* 221-234. https://doi.org/10.1016/j.indmarman.2004.01.009

Claycomb, C. I. (2009). Predicting the level of b2b e-commerce in industrial organizations. *Industrial Marketing Management, 34(3),* 221-234. https://doi.org/10.1016/j.indmarman.2004.01.009

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, *16*(3), 297-334. https://doi.org/10.1007/BF02310555

Das, S., Ghani, M., Rashid, A., Rasheed, R., Manthar, S., & Ahmed, S. (2021). How customer satisfaction and loyalty can be affected by employee's perceived emotional competence: The mediating role of rapport. *International Journal of Management, 12*(3), 1268-1277. https://doi.org/10.34218/IJM.12.3.2021.119

Devaraj, S. K. (2007). Impact of business technologies on operational performance. *The role of Production information integration in supply chain management, 25(6),* 1199-1216. https://doi.org/10.1016/j.jom.2007.01.002

Ellinger. (1999). Automatic replenishment programs and level of involvement: performance implications. *The International Journal of Logistics Management, 10(1),* 25-36. https://doi.org/10.1108/09574099910805914

Ellram, & Cooper. (2014). Supply chain management: It's all about the journey, not the destination. *Journal of Supply Chain Management, 21(1),* 38-50. https://doi.org/10.1111/jscm.12043

Eriksson, P. (2015). Partnering in engineering projects: four dimensions of supply chain integration. *Journal of Purchasing and Supply Management, 21(1),* 38-509.

https://doi.org/10.1016/j.pursup.2014.08.003

Fawcett., E. A. (2007). Information sharing and supply chain performance. Supply chain management: *An international journal, 12(5),* 356-368. https://doi.org/10.1108/13598540710776935

Finley, F. A. (2005). Imperatives for successful collaboration. *Supply Chain Management Review, 9*(1), 30-37.

Haddad, C., & Hornuf, L. (2019). The emergence of the global fintech market: Economic and technological determinants. *Small business economics*, *53*(1), 81-105.

Haque, I., Rashid, A., & Ahmed, S. Z. (2021). The Role of Automobile Sector in Global Business: Case of Pakistan. *Pakistan Journal of International Affairs, 4*(2), 363-383. https://doi.org/10.52337/pjia.v4i2.195

Hashmi, A. (2022). Factors affecting the supply chain resilience and supply chain performance. *South Asian Journal of Operations and Logistics, 1*(2), 65-85. https://doi.org/10.57044/SAJOL.2022.1.2.2212

Hashmi, A. R., & Mohd, A. T. (2020). The effect of disruptive factors on inventory control as a mediator and organizational performance in the health department of Punjab, Pakistan. *International Journal of Sustainable Development & World Policy, 9*(2), 122-134. https://doi.org/10.18488/journal.26.2020.92.122.134

Hashmi, A. R., Amirah, N. A., & Yusof, Y. (2020a). The mediating effect of integrated systems on the relationship between supply chain management practices and public healthcare performance: Structural Equation Modeling. *International Journal of Management and Sustainability, 9*(3), 148-160. https://doi.org/10.18488/journal.11.2020.93.148.160

Hashmi, A. R., Amirah, N. A., & Yusof, Y. (2021b). Organizational performance with disruptive factors and inventory control as a mediator in public healthcare of Punjab, Pakistan. *Management Science Letters, 11*(1), 77-86. https://doi.org/10.5267/j.msl.2020.8.028

Hashmi, A. R., Amirah, N. A., Yusof, Y., & Zaliha, T. N. (2020b). Exploring the dimensions using exploratory factor analysis of disruptive factors and inventory control. *The Economics and Finance Letters, 7*(2), 247-254. https://doi.org/10.18488/journal.29.2020.72.247.254

Hashmi, A. R., Amirah, N. A., Yusof, Y., & Zaliha, T. N. (2021a). Mediation of inventory control practices in proficiency and organizational performance: State-funded hospital perspective. *Uncertain Supply Chain Management*, *9*(1), 89-98. https://doi.org/10.5267/j.uscm.2020.11.006

Hashmi, R. (2023). Business Performance Through Government Policies, Green Purchasing, and Reverse Logistics: Business Performance and Green Supply Chain Practices. *South Asian Journal of Operations and Logistic*s, 2(1), 1–10. https://doi.org/10.57044/SAJOL.2023.2.1.2301

Hashmi, R. (2023). Business Performance Through Government Policies, Green Purchasing, and Reverse Logistics: Business Performance and Green Supply Chain Practices. *South Asian Journal of Operations and Logistic*s, 2(1), 1–10. https://doi.org/10.57044/SAJOL.2023.2.1.2301

Hoek, V. (1998). Measuring the unmeasurable -measuring and improving performance in the Supply chain. Supply Chain Management: *An International Journal*, 187-192. https://doi.org/10.1108/13598549810244232

Hoek, v. (2000). The purchasing and control of supplementary third-party logistics services. *The Journal of Supply Chain Management,* 36(4), 14-26. https://doi.org/10.1111/j.1745-493X.2000.tb00082.x

Holcomb. (2012). Antecedents and consequences of supply chain agility: establishing the link to firm performance. *Journal of Business Logistics, 33(4),* 295-308. https://doi.org/10.1111/jbl.12003

Holmberg. (2000). A systems perspective on supply chain measurements. *International Journal of*

Physical Distribution & Logistics Management, 847-886. https://doi.org/10.1108/09600030010351246

Hung, S. (2017). The influences of suppliers on buyer market competitiveness: an opportunism perspective. *Journal of Business & Industrial Marketing, 32(1),* 18-29. https://doi.org/10.1108/JBIM-08-2015-0151

Huo. (2012). The impact of supply chain integration on company performance. Supply Chain Management an *International Journal, 17(6),* 596-610. https://doi.org/10.1108/13598541211269210

Johnson, & Davis. (1998). Improving OP by using order fulfilment metrics. *National Productivity Review, 17(3),* 3-16. https://doi.org/10.1002/npr.4040170304

Khan, S. K., Ahmed, S., & Rashid, A. (2021). Influence of social media on purchase intention and customer loyalty of Generation Y with the mediating effect of conviction: A case of Pakistan. *Pakistan Journal of International Affairs*, *4*(2), 526-548. https://doi.org/10.52337/pjia.v4i2.207

Khan, S. K., Rashid. A., Benhamed, A., Rasheed, R., & Huma, Z. (2023b). Effect of leadership styles on employee performance by considering psychological capital as mediator: evidence from airlines industry in emerging economy. *World Journal of Entrepreneurship, Management and Sustainable Development, 18*(6), 799-818. https://doi.org/10.47556/J.WJEMSD.18.6.2022.7

Khan, S., Rasheed., R., Rashid, A., Abbas, Q., & Mahboob, F. (2022). The Effect of Demographic Characteristics on Job Performance: An Empirical Study from Pakistan. *Journal of Asian Finance, Economics and Business, 9*(2), 283-294. https://doi.org/10.13106/JAFEB.2022.VOL9.NO2.0283

Khan, S., Rashid, A., Rasheed, R., & Amirah, N. A. (2023a). Designing a knowledge-based system (KBS) to study consumer purchase intention: the impact of digital influencers in Pakistan. *Kybernetes, 52*(5), 1720-1744. https://doi.org/10.1108/K-06-2021-0497

Kim, T. (2006). The causal relationship between supply chain dynamic capabilities, technological innovation, and operational performance. *Management and Production Engineering Review, 7(4),* 6-15. https://doi.org/10.1515/mper-2016-0031

Li, F. A. (1999). Interfirm collaboration through interfirm networks. *Information Systems Journal, 9(2),* 103-115. https://doi.org/10.1046/j.1365-2575.1999.00053.x

Li, S. R. N. N. (2006). The impact of supply chain management practices on competitive advantage and organizational performance. *OMEGA*, 107-124. https://doi.org/10.1016/j.omega.2004.08.002

Lowson. (2001). Retail operational strategies in complex supply chains. *The International Journal of Logistics, 12(1),* 97-111. https://doi.org/10.1108/09574090110806253

Marshall, C., & Cao, a. (2013). Opposites attract organizational culture and supply chain performance. Supply Chain Management: *An International Journal, 18(1),* 86-103. https://doi.org/10.1108/13598541311293203

Mitsuhashi, & Greve. (2009). A matching theory of alliance formation and organizational success complementarity and compatibility. *Academy of Management Journal, 52(5),* 975-995. https://doi.org/10.5465/amj.2009.44634482

Moberg, C. R., & Speh, T. W. (2002). Identifying antecedents of information exchange within supply chains. *International Journal of Physical Distribution & Logistics Management.,* 755-770. https://doi.org/10.1108/09600030210452431

Monczka. (1998). Success factors in strategic supplier alliances: the buying company perspective. Decision sciences. https://doi.org/10.1111/j.1540-5915.1998.tb01354.x

Morash, E. C. (1996). Strategic logistics capabilities for competitive advantage and firm success. *Journal of business logistics*, 1-22.

Naylor, J. B., & Berry. (1999). Integrating the lean and agile manufacturing paradigms in the total

supply chain. *International Journal of Production Economics, 62(1-2),* 107-118. https://doi.org/10.1016/S0925-5273(98)00223-0

Patnayakuni, R., Rai, A. and Seth, N. (2006). Relational antecedents of information flow integration for supply chain coordination. *Journal of Management Information Systems, 23(1),* 13-49. https://doi.org/10.2753/MIS0742-1222230101

Ponomarov, S. a. (2009). Understanding the concept of supply chain resilience. *International Journal of Logistics Management, 20(1),* 123-143. https://doi.org/10.1108/09574090910954873

Prajogo, D. O. (2016). Supply chain process: linking supply chain logistics and lean process. *Journal of Operation and production management, 36(2),* 220-238. https://doi.org/10.1108/IJOPM-03-2014-0129

PrajogoOke, 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. https://doi.org/10.1108/IJOPM-03-2014-0129

Rajaguru, & Matanda. (2013). Consumer perception of store and product attributes and its effect on customer loyalty within the Indian retail sector. Advancing theory maintaining relevance , *Australian and New Zealand Marketing,* 1-8.

Rasheed, R., & Rashid, R. (2023). Role of service quality factors in word of mouth through student satisfaction. *Kybernetes. In press.* http://dx.doi.org/10.1108/k-01-2023-0119

Rasheed, R., Rashid, A., Amirah, N. A., & Afthanorhan, A. (2023). Quantifying the moderating effect of servant leadership between occupational stress and employee in-role and extra-role performance. *Calitatea, 24*(195), 60-68. *https://doi.org/10.47750/QAS/24.195.08*

Rashid, A. & Rasheed, R. (2022). A Paradigm for Measuring Sustainable Performance Through Big Data Analytics–Artificial Intelligence in Manufacturing Firms. *Available at SSRN 4087758.* https://doi.org/10.2139/ssrn.4087758

Rashid, A. & Rasheed, R. (2023). Mediation of inventory management in the relationship between knowledge and firm performance, *SAGE Open, 13*(2), 1-11. https://doi.org/10.1177/21582440231164593

Rashid, A. (2016). Impact of inventory management in downstream chains on customer satisfaction at manufacturing firms. *International Journal of Management, IT and Engineering*, *6*(6), 1-19.

Rashid, A. Rasheed, R., & Amirah, N. A. (2023). Information technology and people involvement in organizational performance through supply chain collaboration. *Journal of Science and Technology Policy Management. In press.* https://doi.org/10.1108/JSTPM-12-2022-0217

Rashid, A., & Amirah, N. A. (2017). Relationship between poor documentation and efficient inventory control at Provincial Ministry of Health, Lahore. *American Journal of Innovative Research and Applied Sciences, 5*(6), 420-423.

Rashid, A., Ali, S. B., Rasheed, R., Amirah, N. A. & Ngah, A. H. (2022a). A paradigm of blockchain and supply chain performance: a mediated model using structural equation modelling. *Kybernetes, Vol. ahead-of-print No. ahead-of-print*. https://doi.org/10.1108/K-04-2022-0543

Rashid, A., Amirah, N. A., & Yusof, Y. (2019). The statistical approach in exploring factors of the documentation process and hospital performance: a preliminary study. *American Journal of Innovative Research and Applied Sciences, 9*(4), 306-310.

Rashid, A., Amirah, N. A., Yusof, Y., & Mohd, A. T. (2020). Analysis of demographic factors on perceptions of inventory managers towards healthcare performance. *The Economics and Finance Letters, 7*(2), 289-294. https://doi.org/10.18488/journal.29.2020.72.289.294

Rashid, A., Rasheed, R., & Amirah, N. A., & Afthanorhan, A. (2022b). Disruptive factors and customer satisfaction at chain stores in Karachi, Pakistan. *Journal of Distribution Science, 20*(10), 93-

103. https://doi.org/10.15722/jds.20.10.202210.93

Rashid, A., Rasheed, R., Amirah, N. A., Yusof, Y., Khan, S., & Agha, A., A. (2021). A Quantitative Perspective of Systematic Research: Easy and Step-by-Step Initial Guidelines. *Turkish Online Journal of Qualitative Inquiry, 12*(9), 2874-2883. https://www.tojqi.net/index.php/journal/article/view/6159/4387

Revilla and Knoppen, D. (2015). Building knowledge integration in buyer-supplier relationships. *International Journal of Operation and production management, 35(10)*, 1408-1436. https://doi.org/10.1108/IJOPM-01-2014-0030

Rosenzweig, E., & Dean. (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),* 347-456. https://doi.org/10.1016/S0272-6963(03)00037-8

Sarkar.Echambadi.Cavusgil. (2001). The influence of complementarity, compatibility,and relationship capital on alliance performance. *Journal of the Academy of Marketing Science, 29(4),* 511-522. https://doi.org/10.1177/03079450094216

Skipworth, H. G. (2015). Supply chain alignment for improved business performance: an empirical study. Supply Chain Management and *International Journal, 20(5)*, 511-533. https://doi.org/10.1108/SCM-06-2014-0188

Wijetunge. (2017). The role of supply chain management practices in achieving organizational performance through competitive advantage. *International Journal of Management and Applied Science, 3(1).*

Wilson, & Roy. (2009). Enabling lean procurement: a consolidation model for small-andMedium Sized enterprises. *Journal of Manufacturing Technology Management, 20(6),* 817-833. https://doi.org/10.1108/17410380910975096

Wu, Y. H., & Smart, J. (2013). A method for analyzing operational complexity in supply chains. *Journal of the Operational Research Society, 64(5),* 654-667. https://doi.org/10.1057/jors.2012.63

Yen, & Hung. (2017). The influences of suppliers on buyer market competitiveness: an opportunism perspective. *Journal of Business & Industrial Marketing, 32(1),* 18-29. https://doi.org/10.1108/JBIM-08-2015-0151

Zhao, X. L. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *journal of Consumer research, 37(2),* 197-208. https://doi.org/10.1086/651257