

Bridging Information Technology Capability and Firm Performance: Unveiling the Mediating Role of Supply Chain Collaboration

Ibaa Mahdi Saleh ¹ , Mohammad Taghi Sadeghi ²

¹ Phd student, Computer Engineering and Information Technology Department, University of Qom, Qom, Iran. E-

ORCID iD: <https://orcid.org/0009-0003-9829-697x>

² Assistant professor, Computer Engineering and Information Technology Department, University of Qom, Qom, Iran

ORCID iD: <https://orcid.org/0000-0001-5521-3618>

Email: ibaamahdi@gmail.com ¹(Corresponding Author) , mt.sadeghi@sqbiau.ac.ir ²

Abstract: This research investigates the mediating role of supply chain collaboration in the relationship between information technology capability and firm performance. The study adopts a quantitative, applied approach, utilizing a descriptive-survey methodology. Data were collected using both library research and field methods, with a standard questionnaire administered to managers and senior experts from operational manufacturing companies in Baghdad. The content validity of the questionnaire was confirmed by experts, while its reliability, assessed using Cronbach's alpha, reached 0.875, indicating high internal consistency. Divergent and convergent validity tests were also conducted. Structural equation modeling (SEM) and Smart PLS software were employed for data analysis. The results reveal that supply chain collaboration significantly mediates the impact of IT capability on firm performance. The findings suggest that organizations with robust IT infrastructures can further improve their performance outcomes by fostering stronger collaborative efforts within their supply chains, thereby optimizing operational efficiencies and enhancing competitive advantage.

Keywords: Supply chain collaboration; information technology capability; firm performance; content validity; structural equation modelling; Smart PLS software.

Introduction

In today's business environment, the complex interaction among information technology (IT) capabilities, supply chain collaboration (SCC), and overall firm performance has emerged as a key area of interest for both scholars and practitioners. As organizations navigate the complexities of a globalized economy, understanding the synergies between these critical elements is essential for sustaining competitive advantage and achieving optimal operational efficiency (Sadreddin and Chan, 2023). This study purposes to discover the dynamics of these relationships, focusing specifically on the mediating role of SCC in the linking among information technology capability and firm performance. The investigation is contextualized within the unique setting of manufacturing firms in Baghdad, a region that has undergone distinctive economic and geopolitical transformations.

While existing literature recognizes the independent significance of information technology capability and supply chain collaboration in shaping firm performance, there is a notable gap in understanding the intricate interdependence between these two capabilities and their combined impact on organizational outcomes. The manufacturing sector in Baghdad, operating in an environment shaped by historical challenges and contemporary economic shifts, serves as an intriguing backdrop for exploring this nexus (Marei et al., 2023).

The problem at hand can be articulated as follows: How does information technology capability directly affect firm performance, and to what extent does this relationship depend on the mediating influence of supply chain collaboration within the manufacturing firms of Baghdad? This research question encapsulates the central focus of this study, which seeks to unveil the intricate mechanisms through which IT capabilities, supply chain collaboration, and firm performance are interconnected within the unique context of Baghdad's manufacturing landscape (Wei et al., 2022).

Understanding these dynamics is not merely an academic exercise but holds practical implications for manufacturing firms seeking to enhance their competitiveness and sustainability. By unravelling the mediating role of supply chain collaboration, organizations may gain valuable insights into optimizing their IT investments to foster more effective and responsive supply chain processes, ultimately impacting overall performance. This study seeks to address this knowledge gap and contribute to both academic literature and managerial practices within the manufacturing sector in Baghdad.

2 Theory and hypotheses

2.1 Firm performance

Firm performance encapsulates the comprehensive evaluation of how well an organization executes its strategies and achieves its objectives. This multifaceted concept encompasses financial, operational, and strategic dimensions, serving as a holistic measure of a company's success and viability. Financial performance indicators, such as profitability, revenue growth, and return on investment, gauge the economic success of a firm (Kong et al., 2020). Operational performance considers efficiency, supply chain effectiveness, and quality management, reflecting the organization's ability to produce and deliver goods or services. Additionally, strategic performance evaluates a company's innovation, adaptability, and alignment with its long-term goals, emphasizing the importance of forward-thinking strategies for sustained success. The human resource dimension, including employee productivity and satisfaction, contributes to the overall health of the organization. Sustainability and corporate social responsibility are increasingly recognized as integral components of firm performance, reflecting a commitment to ethical practices and societal contributions (Bissoondoyal-Bheenick et al., 2023).

Measuring firm performance involves a dynamic and ongoing process of assessing key performance indicators (KPIs) across these dimensions. Stakeholders, including investors, customers, and employees, rely on these evaluations to make informed decisions. Effective performance management enables organizations to identify strengths, address weaknesses, and adapt to changing market conditions, ensuring long-term viability and competitiveness. Ultimately, firm performance serves as a critical barometer for the overall health and sustainability of a business in its economic and social context (Nayal et al., 2022).

Firm performance encompasses a comprehensive concept, encompassing all facets and dimensions influencing organizational activities and engagements. It reflects how the organization's missions, tasks, and activities are executed, encompassing the outcomes of these endeavors. Essentially, organizational performance pertains to the attainment, and potentially surpassing, of organizational and societal objectives, while also fulfilling the organization's responsibilities. Performance fundamentally embodies the culmination of an organization's activities and operations (Alodat et al., 2022). In another language, "performance" is a term that encompasses both the concept of carrying out an activity or task and the outcome or result of that activity. In essence, performance refers to the final result or output of a process or activity. In this context, performance refers to achieving observable and measurable results from various actions and operations of the organization. Specifically, understanding performance allows us to clearly observe how learning and learned activities in the organization translate into observable and measurable behaviors and outcomes (Al-Shammari et al., 2022).

2.2 Information technology capabilities

The concept of information technology (IT) capabilities involves the mobilization and utilization of IT-based resources in conjunction with other organizational capabilities (Al-Tariq et al., 2022). This multidimensional perspective highlights four key dimensions that collectively constitute the IT capabilities of a company:

Flexible infrastructure of information technology: This dimension underscores the importance of having an adaptable and scalable IT infrastructure. A flexible IT infrastructure allows the organization to efficiently accommodate changes in technology, business requirements, and scale of operations. It involves the capability to integrate new technologies seamlessly, ensuring that the IT foundation can evolve in response to dynamic business environments (Alolayyan et al., 2022).

Integration of information technology: Integration is a critical aspect of IT capabilities, emphasizing the seamless connection and collaboration between different IT systems and applications. This dimension involves the ability to integrate various technological components to create a cohesive and efficient IT ecosystem. Integrated systems enhance data flow, communication, and overall operational efficiency within the organization (Tang et al., 2023).

Information technology management: This dimension focuses on the strategic and operational management of IT resources. Effective IT management involves planning, organizing, and overseeing the implementation of IT initiatives. It includes aspects such as resource allocation, project management, and ensuring that IT investments

align with the overall organizational goals. Competent IT management is essential for optimizing the performance and value of IT capabilities (Eng et al., 2023).

Alignment of information technology with Business: Aligning IT with the broader business objectives is a critical dimension of IT capabilities. This involves ensuring that IT strategies, projects, and investments are directly supportive of the organization's overall business strategy. The alignment of IT with business goals enhances the contribution of IT to organizational success, fostering a synergistic relationship between technology and business objectives (Sharma and Behl, 2023).

Understanding and enhancing these four dimensions of IT capabilities is fundamental for organizations seeking to leverage information technology as a strategic asset. The flexible infrastructure allows for adaptability, integration ensures seamless collaboration, effective IT management optimizes resource utilization, and alignment with business objectives ensures that IT investments contribute directly to the organization's success. Together, these dimensions create a robust framework for building and sustaining IT capabilities that can drive organizational performance and competitiveness (Pathak et al., 2023).

2.3 Supply Chain Collaboration (SCC)

SCC refer to an organization's ability to seamlessly connect and coordinate various components of its supply chain, both internally and externally. This involves the effective integration of critical processes, systems, and information flows across various stages of the supply chain, from the obtaining of rare resources to the distribution of ended goods to end clients. Effective supply chain collaboration enables real-time visibility, communication, and cooperation among all stakeholders, including suppliers, manufacturers, distributors, and retailers. This integration facilitates the seamless flow of information, materials, and resources, resulting in improved responsiveness, reduced lead times, and enhanced overall operational efficiency within the supply chain (Kamble et al., 2023).

The development and mastery of supply chain collaboration involve the adoption of advanced technologies, the establishment of robust communication channels, and the implementation of standardized processes. Organizations with strong supply chain collaboration can quickly adapt to changes in market demand, minimize disruptions, and optimize inventory levels. Furthermore, by fostering collaboration and transparency, these capabilities contribute to building stronger relationships with partners throughout the supply chain network, ultimately resulting in a more agile and competitive enterprise (Shi et al., 2023).

Supply chain collaboration is a strategic approach that entails seamlessly linking with both suppliers and customers to orchestrate integrated manufacturing processes across the entire supply chain, giving a company a distinctive advantage that competitors find challenging to replicate. Collaborative efforts with suppliers and customers for the development of novel products and processes are now recognized as pivotal for achieving competitive success (Liao et al., 2022). This collaborative approach involves three interconnected and complementary capabilities: understanding integration, implementing integration, and promoting and sustaining integration. In the situation of this research, the measurement of SCC focuses on two key dimensions: the ability to integrate effectively with suppliers and the capability to align seamlessly with customers. Assessing these dimensions provides valuable insights into how well an organization can synchronize its operations with upstream suppliers and cater to the needs and expectations of downstream customers. By refining these integration capabilities, companies can not only enhance their operational efficiency but also establish a competitive edge in the dynamic landscape of modern business (Freije et al., 2022).

2.4 Information technology capability and firm performance

The utilization of information technology has a profound impact not only on organizational structure but also on day-to-day activities, thereby influencing the overall performance of a company. The strategic application and ongoing development of information technology empower supply chain partners to operate cohesively as a unified entity. By incorporating information technology into the supply chain, there is a potential to enhance overall efficiency by alleviating uncertainties stemming from issues like information unavailability, incompleteness, and distortion (Heredia et al., 2022). In bright of these considerations, it is sensible to assert that capability of information technology significantly influences the overall performance of a company. The

effective integration and utilization of IT within the supply chain contribute to a more streamlined, responsive, and collaborative operational environment, ultimately impacting the company's performance in a positive and meaningful way (Joshi et al., 2022).

Hypothesis 1: The capability of information technology has an effect on the firm performance.

2.5 Information technology capability and supply chain collaboration

Continuous advancements in communication, information systems, and information technology have catalyzed a transformative evolution in supply chain management and its methodologies. A well-functioning and efficient supply chain relies on the accurate, timely, and high-quality transmission and distribution of information. Information technology plays a pivotal role in supply chain collaboration by reducing sensitivity and friction in transactions between various partners. Its primary function is to enhance the cost-effectiveness of supply chain operations through the seamless flow of information (Qu and Liu, 2022). Furthermore, information technology acts as a catalyst for fostering collaboration and coordination among supply chain entities by facilitating the sharing of critical information (Junaid et al., 2022). Therefore, it is reasonable to posit that:

Hypothesis 2: The capability of information technology has an effect on the capability of the integration of the supply chain.

2.6 Supply chain collaboration and firm performance

Researchers have long investigated the impact of various variables on company performance. Understanding the relationship between supply chain collaboration and company performance is crucial for the survival and success of any organization. Suppliers show a positive part in enhancing the operational performance of buyer businesses. Moreover, supplier development contributes positively to the business performance of buyer companies (Zhu et al., 2022).

The findings of several studies indicate that the level of supply chain collaboration influences company performance. Importantly, the intensity and extent of integration play a significant role in this relationship. The highest degree of supply chain collaboration tends to correspond with the highest level of performance. In other words, greater levels of supply chain collaboration are associated with improved company performance.

Efforts to optimize organizational processes without considering the contributions of suppliers and customers are futile. Organizations that collaborate towards common goals tend to achieve better performance outcomes (Alshurideh et al., 2022).

Hypothesis 3: The capability to integrate the supply chain affects the firm performance.

Hypothesis 4: Supply chain collaboration mediates the outcome of information technology capability on firm performance.

3 Methods

This research adopts a practical approach by investigating the impact of IT capabilities on company performance, with SCC as a mediating variable. The study aims not only to describe but also to explain the complexities of this problem and its dimensions. It seeks to identify the nature of the relationship and explore how information technology capabilities influence company performance through the lens of supply chain collaboration.

Methodologically, the research is both descriptive and causal, providing insights into the cause-and-effect relationships among the variables under investigation. The chosen methodological strategy is survey-based and cross-sectional, aligning with the goal of collecting data from managers and senior experts in active manufacturing companies in Baghdad at a specific point in time. The statistical population includes these professionals, and the research aims to gather data from a minimum sample size of 120 companies, calculated based on ten times the amount of strictures estimated by the model.

To collect data, the researchers employed a field method and a questionnaire tool with a predefined sampling method. The data investigation was showed using structural equation modeling (SEM) with a partial least squares (PLS) approach, facilitated by Smart PLS software. This combination of practical purpose, descriptive-

causal nature, and survey methodology contributes to a comprehensive exploration of the intricate relationships between information technology capabilities, supply chain collaboration, and company performance within the manufacturing firms of Baghdad.

3.1 Descriptive indicators

In this section, descriptive statistics are employed to offer insights into the dataset gathered from the statistical sample. Table 1 presents key metrics such as the number of data points, the average values, and the standard deviations for each of the research variables. These descriptive statistics provide a comprehensive overview of the central tendency and variability within the dataset, shedding light on the characteristics of the collected data. Analysing the results for each variable offers a foundational understanding of their distribution and variation, setting the stage for further exploration and interpretation in subsequent sections of the research.

Table 1 Descriptive indices of research variables

Research variables	Number of data	Average	Standard deviation
Information technology capabilities	120	3.41	0.70
Supply chain collaboration	120	3.52	0.73
Firm performance	120	3.48	0.63

4 Results

To evaluate the adequacy of the measurement model, several criteria were used, including reliability indices, convergent validity, and divergent validity. The assessment of internal consistency reliability involved three key measures: Cronbach's alpha, composite reliability, and factor loading coefficients.

4.1 Assessing Internal Consistency

Cronbach's alpha is an extensively used amount of inner constancy reliability, offering an estimate of the reliability of a scale or set of items based on the correlations among its individual components. However, an alternative and arguably more advantageous criterion for assessing reliability is composite reliability. Unlike Cronbach's alpha, which calculates reliability in absolute terms, composite reliability considers the correlations between the underlying structures and assigns more weight to indicators with higher factor loadings. This nuanced approach offers a more refined measure of reliability, capturing the interrelationships among different components. In practice, both Cronbach's alpha and compound reliability are frequently used together to provide a thorough evaluation of scale reliability. A compound reliability value of 0.7 or higher is generally careful suitable, reflecting a strong level of internal consistency within the measured constructs (Sakaria et al., 2023). Figure 1 displays the results for calculating Cronbach's alpha and composite reliability using Smart PLS software.

Figure 1 Cronbach's alpha, composite reliability

	Cronbach's Alpha	rho_A	Composite Reliability
Firm Performance	0.909	0.914	0.925
Information Technology Capability	0.890	0.902	0.909
Supply Chain Integration Capability	0.835	0.857	0.876

Convergent validity plays a crucial role in evaluating extent models in structural equation modeling. Fornell and Larcker (1981) suggest utilizing average variance extracted (AVE) as a pivotal indicator to assess convergent validity, with a suggested threshold of 0.5 or higher.

In Table 4, the reported Cronbach's alpha and composite reliability standards for all latent variables surpass the beginning of 0.7, signifying excellent reliability within the model. Moreover, the average AVE values for the variables also surpass the desired threshold of 0.5, demonstrating favorable convergent validity of the measurement models (Sakaria et al., 2023). These outcomes cooperatively confirm the robustness and reliability of the structural equation model, indicating that the latent variables are consistently and accurately measured, and the relationships within the model are reliable and meaningful. Figure 2 shows the results obtained for calculating Fornell-Larcker of the Smart PLS software.

Figure 2 Fornell-Larcker

	Firm Performance	Information Technology Capability	Supply Chain Integration Capability
Firm Performance	0.744		
Information Technology Capability	0.885	0.710	
Supply Chain Integration Capability	0.809	0.757	0.690

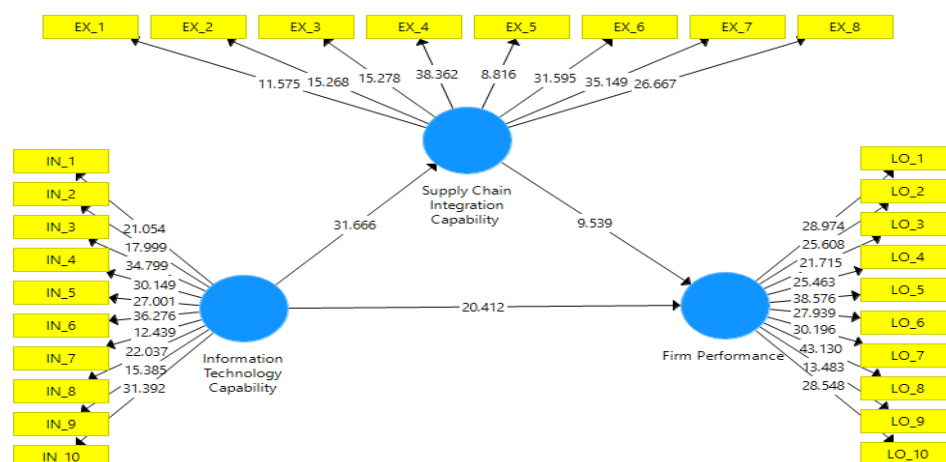
4.2 Structural model evaluation

After leading a thorough assessment of the validity and reliability of the extent model, the focus shifts to evaluating the structural model, specifically examining the relations among the latent variables. In this research, the significance coefficients, represented by T-values, are utilized as a critical metric. T-values serve as important statistical indicators to determine the meaning of the estimated relations between variables. A T-value signifies the relation of the assessed constant to its standard error and specifies whether the observed relationships are statistically significant. By examining the T-values associated with the structural paths, researchers can discern the forte and significance of the hypothesized relations within the structural model (Edeh et al., 2023).

4.3 Significant coefficients

The primary criterion for assessing the suitability of the structural model is the significance of coefficients. In this study, significant coefficients have been evaluated, and all coefficients exceeding 1.96 indicate the meaning of the relations among variables at the 95% assurance level (Sakaria et al., 2023). Figure 3 shows Significant coefficients. All coefficients are greater than 1.96.

Figure 3 Significant coefficients



4.4 Evaluating Model Fit

In Table 2, the outcomes of the structural model analysis, include the R-squared (R^2) values for all endogenous variables in the research model. These findings assess the goodness of fit for the structural model, indicating a

strong and favorable fit for most variables. The R^2 criterion is valuable for assessing the quantity of variance in the endogenous variables clarified by the exogenous variables in the model (Edeh et al., 2023).

Furthermore, to assess the predictive power of the model, the researchers utilized the Q^2 standard. The results presented in Table 2 confirm that the model exhibits strong predictive capabilities. Q^2 is a degree of the model's analytical ability for future observations, and the robust outcomes suggest that the structural model is not only well-fitted to the observed data but also exhibits a high level of accuracy in forecasting future outcomes. These findings collectively reinforce the consistency and effectiveness of the structural model in capturing and predicting the relationships outlined in the research, further validating its utility in explaining and anticipating outcomes within the studied context.

Table 2 Amounts R^2 and Q^2

<i>Research variables</i>	R^2	Q^2
Information technology capabilities	0.82	0.27
Supply chain collaboration	0.76	0.49
Firm performance	0.44	0.44

After integrating the dimension and structural components of the current research model, the general fit is evaluated using the Goodness-of-Fit (GOF) standard. In this study, the GOF criterion is reported as 0.6, indicating an excellent fit for the overall model. The GOF measure serves as a comprehensive indicator, evaluating both the dimension and structural aspects of the model to assess its alignment with the observed data.

4.5 Testing hypotheses

After thoroughly evaluating the appropriateness of both the measurement models and the structural model, and confirming their adequacy, the research hypotheses were systematically examined and tested. The findings, which include the significant amounts for each suggestion and the uniform coefficients of the associated pathways, are comprehensively presented in Table 3 and Figure 4.

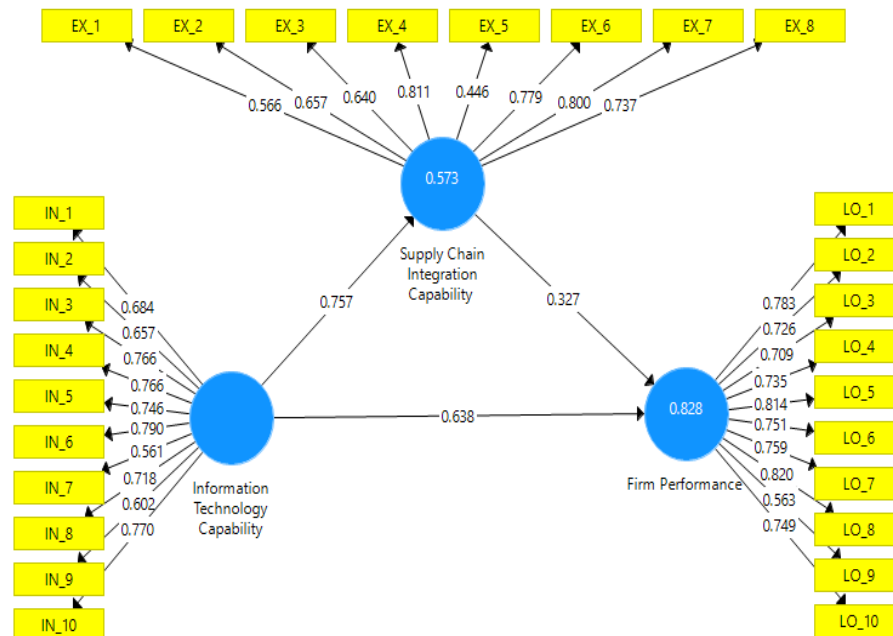
The results of the hypothesis test demonstrate that all formulated research hypotheses have been supported. This confirmation of all research hypotheses underscores the validity and reliability of the proposed structural relationships within the model. The significant coefficients underscore the robustness of the identified associations between the variables, further reinforcing the credibility of the theoretical framework. These results contribute valuable insights to the form of knowledge in the field, providing empirical support for the proposed relationships and affirming the relevance of the model in explaining the phenomena under investigation. Researchers and practitioners can therefore rely on these substantiated hypotheses as a foundation for understanding and interpreting the dynamics and interdependencies within the studied context.

Table 3 Testing hypotheses

<i>Hypotheses</i>	<i>Significant coefficients</i>	<i>Path coefficient</i>	<i>Test result</i>
The capability of information technology has an effect on the firm performance	20.412	0.638	Accept
The capability of information technology has an effect on the capability of the integration of the supply chain.	31.666	0.757	Accept

The capability to integrate the supply chain affects the firm performance	9.539	0.327	Accept
---	-------	-------	--------

Figure 4 Path coefficient



4.6 Sobel test

The Sobel test is a statistical process utilized to evaluate the meaning of an arbitration outcome within a model. It determines whether the secondary effect of an independent variable on a dependent variable through a moderator is significantly different from zero. The exam helps determine the extent to which the mediator explains the association among the independent and dependent variables. Sobel test is particularly applied in structural equation modelling (SEM) and mediation analysis. In Table 4 shows the results.

Table 4 Testing hypotheses

Hypothesis	Significant coefficients	Path coefficient	Test result
Supply chain collaboration mediates the effect of information technology capability on firm performance.	8.985	0.248	Accept

5 Discussion

The results of this study illuminate a nuanced considerate of the intricate relationships among information technology (IT) capability, supply chain collaboration, and firm performance within Baghdad's manufacturing firms. The examined model suggests a complex web of interactions, highlighting the interceding role of SCC in the connection among IT capability and firm performance.

The results confirm the significant impact of IT capability on firm performance. As organizations in Baghdad's manufacturing sector grapple with the challenges of a competitive global market and rapid technological changes, those with robust IT capabilities are better positioned to enhance their operational efficiency, foster

innovation, and adapt swiftly to dynamic market conditions. The positive connexion between IT capability and firm performance underscores the pivotal role of technological advancements in driving organizational success.

The influence of IT capability on supply chain collaboration is profound and multi-faceted. The strategic integration of advanced IT solutions transforms the supply chain from a linear process into a dynamic, interconnected ecosystem. The resulting improvements in visibility, collaboration, data-driven decision-making, responsiveness, and coordination contribute to a more resilient and competitive supply chain. As organizations continue to navigate the complexities of the modern business landscape, harnessing the synergies between IT and supply chain collaboration will be essential for sustained success and adaptability.

The research underscores a reciprocal relationship between supply chain collaboration and firm performance. While IT capability sets the foundation, the organization's capacity to integrate its supply chain emerges as a critical driver of enhanced firm performance. Effective supply chain collaboration is shown to reduce uncertainties, optimize resource utilization, and improve responsiveness to market demands. In turn, these improvements contribute to the overall success and competitiveness of the organization.

The study explores the interceding role of SCC, demonstrating that the influence of IT capability on firm performance is partially channelled through the organization's capacity to effectively integrate its supply chain. This highlights the importance of supply chain collaboration as a pathway through which IT capabilities contribute to overall firm performance. This implies that the benefits of IT capability extend beyond its direct impact on firm performance; they are, to a significant extent, realized through the organization's proficiency in orchestrating seamless collaboration and information flow across the supply chain. This highlights the strategic importance of supply chain collaboration as a mechanism for translating IT investments into tangible improvements in overall firm performance.

These findings carry significant implications for managerial practice in Baghdad's manufacturing firms. Organizations are encouraged to not only invest in advanced information technologies but also prioritize the development of supply chain collaboration. Strengthening these capabilities can act as a strategic lever for translating IT investments into tangible performance outcomes. Moreover, continuous monitoring and adaptation of IT and supply chain strategies are recommended to align with the evolving dynamics of the global marketplace.

6 Conclusion

This study provides valuable understandings addicted to the interconnected dynamics of IT capability, supply chain collaboration, and firm performance. In today's complex business environment, organizations must comprehensively understand and strategically leverage these interconnected dynamics to achieve sustained success and competitiveness.

For managerial practice in Baghdad's manufacturing firms, the study suggests the importance of investing in both advanced information technologies and supply chain collaboration. Strengthening these capabilities can serve as a strategic lever for translating IT investments into tangible performance outcomes. Additionally, continuous monitoring and adaptation of IT and supply chain strategies are recommended to align with the evolving dynamics of the global marketplace.

In summary, this study proposals valued visions into the interconnected dynamics of IT capability, supply chain collaboration, and firm performance. Recognizing and strategically leveraging these interdependencies can be crucial for achieving sustained success and competitiveness in the modern business landscape.

References

1. Alodat, A. Y., Salleh, Z., Hashim, H. A., and Sulong, F. (2022) 'Corporate governance and firm performance: Empirical evidence from Jordan', *Journal of Financial Reporting and Accounting*, Vol. 20, No. 5, pp. 866-896.
2. Alolayyan, M., Al-Rwaidan, R., Hamadneh, S., Ahmad, A., AlHamad, A., Al-Hawary, S., and Alshurideh, M. (2022) 'The mediating role of operational Flexibility on the relationship between quality of health

- information technology and management capability', *Uncertain Supply Chain Management*, Vol. 10, No. 4, pp. 1131-1140.
3. Al-Shammari, M. A., Banerjee, S. N., and Rasheed, A. A. (2022) 'Corporate social responsibility and firm performance: A theory of dual responsibility', *Management Decision*, Vol. 60, No. 6, pp. 1513-1540.
4. Alshurideh, M., Kurdi, B., Alzoubi, H., Obeidat, B., Hamadneh, S., and Ahmad, A. (2022) 'The influence of supply chain partners' integrations on organizational performance: The moderating role of trust', *Uncertain Supply Chain Management*, Vol. 10, No. 4, pp. 1191-1202.
5. Bissoondoyal-Bheenick, E., Brooks, R., and Do, H. X. (2023) 'ESG and firm performance: The role of size and media channels', *Economic Modelling*, Vol. 21, No. 1, pp. 106-203.
6. Edeh, E., Lo, W. J., and Khojasteh, J. (2023) 'Review of Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook: By Joseph F. Hair Jr., G. Tomas M. Hult, Christian M. Ringle, Marko Sarstedt, Nicholas P. Danks, Soumya Ray. Cham, Switzerland: Springer,(2021). 197 pp. 0, OpenAccess; 59.99, Hardcover Book.
7. Eng, T. Y., Mohsen, K., and Wu, L. C. (2023) 'Wireless information technology competency and transformational leadership in supply chain management: implications for innovative capability', *Information Technology and People*, Vol. 36, No. 3, pp. 969-995.
8. Fornell, C., & Larcker, D. F. (1981). 'Evaluating structural equation models with unobservable variables and measurement error', *Journal of marketing research*, Vol. 18, No. 1, pp. 39-50.
9. Freije, I., de la Calle, A., and Ugarte, J. V. (2022) 'Role of supply chain integration in the product innovation capability of servitized manufacturing companies', *Technovation*, Vol. 118, No. 2, pp. 102-116.
10. Heredia, J., Castillo-Vergara, M., Geldes, C., Gamarra, F. M. C., Flores, A., and Heredia, W. (2022) 'How do digital capabilities affect firm performance? The mediating role of technological capabilities in the "new normal"', *Journal of Innovation and Knowledge*, Vol. 7, No. 2, 100171.
11. Joshi, A., Benitez, J., Huygh, T., Ruiz, L., and De Haes, S. (2022) 'Impact of IT governance process capability on business performance: Theory and empirical evidence', *Decision Support Systems*, 153, pp. 113-128.
12. Junaid, M., Zhang, Q., and Syed, M. W. (2022) 'Effects of sustainable supply chain integration on green innovation and firm performance', *Sustainable Production and Consumption*, Vol. 30, pp. 145-157.
13. Kamble, S. S., Gunasekaran, A., Subramanian, N., Ghadge, A., Belhadi, A., and Venkatesh, M. (2023) 'Blockchain technology's impact on supply chain integration and sustainable supply chain performance: Evidence from the automotive industry', *Annals of Operations Research*, Vol. 327, No. 1, pp. 575-600.
14. Kong, Y., Antwi-Adjei, A., and Bawuah, J. (2020) 'A systematic review of the business case for corporate social responsibility and firm performance', *Corporate Social Responsibility and Environmental Management*, Vol. 327, No. 2, pp. 444-454.
15. Liao, S. H., Hu, D. C., and Chen, S. T. (2022) 'Supply chain integration, capability and performance—a business-to-business network cooperation', *Journal of Business and Industrial Marketing*, Vol. 37, No. 5, pp. 1127-1137.
16. Marei, A., Abou-Moghli, A., Shehadeh, M., Salhab, H., and Othman, M. (2023) 'Entrepreneurial competence and information technology capability as indicators of business success', *Uncertain Supply Chain Management*, Vol. 11, No. 1, pp. 339-350.
17. Nayal, K., Kumar, S., Raut, R. D., Queiroz, M. M., Priyadarshinee, P., and Narkhede, B. E. (2022) 'Supply chain firm performance in circular economy and digital era to achieve sustainable development goals', *Business Strategy and the Environment*, Vol. 31, No. 3, pp. 1058-1073.
18. Pathak, S., Krishnaswamy, V., and Sharma, M. (2023) 'Big data analytics capabilities: a novel integrated fitness framework based on a tool-based content analysis', *Enterprise Information Systems*, Vol. 17, No. 1, pp. 19-27.
19. Qu, K., and Liu, Z. (2022) 'Green innovations, supply chain integration and green information system: A model of moderation', *Journal of Cleaner Production*, Vol. 339, No. 5, pp. 130-147.
20. Sadreddin, A., and Chan, Y. E. (2023) 'Pathways to developing information technology-enabled capabilities in born-digital new ventures', *International Journal of Information Management*, Vol. 68, No. 2, pp. 102-122.

21. Sakaria, D., Maat, S. M., and Mohd Matore, M. E. E. (2023) 'Examining the Optimal Choice of SEM Statistical Software Packages for Sustainable Mathematics Education: A Systematic Review', *Sustainability*, Vol. 15, No. 4, pp.320-341.
22. Sharma, S., and Behl, R. (2023) 'Strategic alignment of information technology in public and private organizations in India: a comparative study', *Global Business Review*, Vol. 24, No. 2, pp. 335-352.
23. Shi, H., Feng, T., and Zhu, Z. (2023) 'The impact of big data analytics capability on green supply chain integration: an organizational information processing theory perspective', *Business Process Management Journal*, Vol. 29, No. 2, pp. 550-577.
24. Tang, Y. M., Chau, K. Y., Ip, Y. K., and Ji, J. (2023) 'Empirical research on the impact of customer integration and information sharing on supply chain performance in community-based homestays in China', *Enterprise Information Systems*, Vol. 17, No. 7, pp. 203-222.
25. Tariq, E., Alshurideh, M., Akour, I., and Al-Hawary, S. (2022) 'The effect of digital marketing capabilities on organizational ambidexterity of the information technology sector', *International Journal of Data and Network Science*, Vol. 6, No. 2, pp. 401-418.
26. Wei, S., Xu, D., and Liu, H. (2022) 'The effects of information technology capability and knowledge base on digital innovation: the moderating role of institutional environments', *European Journal of Innovation Management*, Vol. 25, No. 3, pp. 720-740.
27. Zhu, C., Du, J., Shahzad, F., and Wattoo, M. U. (2022) 'Environment sustainability is a corporate social responsibility: measuring the nexus between sustainable supply chain management, big data analytics capabilities, and organizational performance', *Sustainability*, Vol. 14, No. 6, pp. 33-51.