

Relationship between organization supply chain capabilities and organization responsiveness

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ABSTRACT

The link between an organization's supply chain's capacities and responsiveness has been identified as one of the main issues in ensuring business performance and achieving competitive advantage. Indeed, to achieve efficient responses to customers' needs, working across organizational boundaries is essential. This study shows positive relationships between an organization's supply chain capabilities and organizational responsiveness. This study identified two key issues: (1) the connection between supply chain capabilities and organizational responsiveness and (2) the impact of supply chain capabilities on organization responsiveness. In a taxonomy, various scenarios of the relationship between supply chain capabilities and organization responsiveness were developed, and different studies were used to demonstrate the experience of intra and inter-organizational activities in economic growth. The findings of numerous studies show in detail that an organization's supply chain capabilities are essential for improving organizational responsiveness and competitiveness. Supply chain capabilities not only directly enhance operational efficiency but also help with collaborative practices that help strengthen internal skills in turn.

Keywords: Management, Capabilities, Supply chain capabilities, Responsiveness, Developing economy.

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1. Introduction

Supply chain capabilities in industries are used to gain a competitive edge, which ultimately reduces costs and results in low production costs or high-quality production (. Furthermore, organizations that act as vendors have state-of-the-art expertise in managing the business units of different outsourcers, creating the centre of business specialization and organizational institutionalization that works together to achieve common goals and objectives through day-to-day operations. Since throughout the process, the core responsibility of a business is to calculate the efficiency level of the outsourcing process using different key performance indicators (Rashid et al., 2024a), Supply chain capabilities create a bridge between an outsourcer and a vendor to manage the firm's operations smoothly, which can be any functions of the business, i.e., payroll, recruitment, customer support, call centre services and after-sales services. This study focuses on the impact of an organization's supply chain capabilities on organizational responsiveness.

The field of research used in this study is "supply chain" and "organization responsiveness". The supply chain is the movement of a product or service from its manufacturer or supplier to its end consumer. Further elaborating the supply chain, some activities need raw materials and other things to make a finished good that can be supplied to the end consumer. Outsourcing refers to making another organization work for internal activities under a legal contract on which the other company is specialized. Outsourcing helps a business reduce its costs, which include production costs, labour costs, government taxes, safety protection costs etc. Supply chain capabilities are those capabilities of any organization that include the terms and regulations that were stated in the contract for a specific business operation (Rashid et al., 2024b).

The relationship between the capacities of the supply chain organization and the organization's responsiveness has been recognized as one of the core issues for ensuring business performance and achieving competitive advantage (Rashid et al., 2024c). In today's business world, after globalization, businesses have adapted to many changes in order to survive in this modern competitive environment. Thus, working across organizational boundaries is essential to respond to customers' needs efficiently. In a nutshell, businesses evolve their structure, framework, strategy, operations, and procedures to achieve optimal levels of effectiveness and efficiency. Provoked by emerging market trends, supply chain capabilities have significant importance and become the new centre of attraction for businesses (Aron et al., 2005). This research aimed to study the impact of business outsourcing processes on the supply chain. The outline of the study consists of a few segments: the first part is the introduction of the study, which consists of a detailed introduction of the study; the second part is the literature review, which explains the previous research on studies conducted by different scholars and researchers. Hence, the following research objectives (RO) and research question will be investigated:

RO: To determine the relationship between supply chain capabilities and organizational responsiveness.

RQ: What is the relationship between supply chain capabilities and organizational responsiveness?

2. Literature Review

2.1 Organizational Supply Chain Capabilities

In an organization, supply chain capabilities can be characterized as the inter-organizational linkages that perform operations to achieve common goals. Furthermore, many theories, such as agency,

transaction cost, resource-based, and relationship theories, are addressed to realize the perspective of inter-organizational linkages (Rashid & Rasheed, 2024; Saxena & Bharadwaj, 2009). In the early days of business outsourcing, organizations only used this method to either cut costs or improve the performance of their operations. Through this type of outsourcing, the benefits delivered to the organization are limited to the micro-level, which does not contribute to their competitive position. However, new practices are adopted by organizations with emerging strategic focus; organizations started outsourcing their non-core operations, i.e., financials and accounts, HR, and customer support (Baloch & Rashid, 2022). During the contemporary period, many organizations, such as Apple and Foxconn, transformed their core business operations into entirely new globalized industries through business outsourcing. At the end of the twenty-first century, information and technological advancement improvised business operations and procedures globally, ultimately changing departmental and core business processes such as marketing, supply chain management, and management. Outsourcing decisions of any core operations are considered make-or-buy decisions by the organizations where specific parameters are observed with the core functionality of operations and, after reaching a certain satisfactory extent, core departments outsourcing decisions are made by the businesses (Rashid & Rasheed, 2023). Technologically driven supply chain capabilities change the supply chain framework of business, which contains a combination of enterprise resource planning ERP software and, more recently, business process management (BPM) systems. According to Loh & Venkatraman (1992), using information technology and inter- and intra-network frameworks has been the new trend in outsourcing, revolutionizing the quality of services organizations acquire. Even more critical, a restricted amount of information resources are shared on these networks, which maintain the reliability and confidentiality of operations along with the process; therefore, in the 20th century, a massive quantity of businesses are relying on information technological frameworks for the success of their globalized business operations. The detailed research analysis of Abramovsky and Griffith (2006) illustrated the impact of IT on the purchase decision-making of an organization in outsourcing their non-core and core functional areas to acquire services from a third party. It concluded that businesses that defy the traditional concept and outsource their functions tend to perform efficiently and effectively as they can cut their transactional and coordination cost, which ultimately help them to sustain themselves in this dynamic environment and minimize the threads of uncertainty at times of adversity.

Many studies have been conducted on supply chain capabilities for paralleling the cross-functional nature of inter-organizational linkages and their effects, with an extensive series of academic disciplines from organization theory and management sciences (Rahman & Siddiqui, 2006; Sa et al., 2007; Rasheed & Rashid, 2023). Diversity, as referred to in the academic discipline, has always been problematic to take under concentration because it targets specific areas of the business, which cannot be applicable in any other business model (Barros, 2022; Ngai et al., 2011; Rashid et al., 2023). On the other hand, the core purpose and objective of the supply chain department of any organization emphasizes information sharing to minimize lead time and reach steps that make the entire supply chain efficient in order to reach the optimal level of desired responsiveness of supply chain operations. The critical essentials in supply chain capabilities are to cut the best possible cost at the different levels of chains in the process and among each player in the supply chain, such as logistic cost, supplier cost, collaboration cost, coordination cost, etc.

2.2 Organizational Responsiveness

Furthermore, another core purpose of an organizational supply chain is to increase responsiveness and minimize lead and replenishment times in order to boost the product cash transformational cycle. Businesses' trends for adapting Supply chain capabilities have gone incredibly high after the emerging market strategy; management risk, improved forecasting, and reduced cost are the core benefits that businesses require from the desired supply chain vendor. Red Ocean businesses must keep them a few miles away to create a sustainable position in the market with solid core competencies. Supply chain outsourcing enables organizations to focus on manufacturing supply chain activities, which is the main reason for massive production and turning it into sales to benefit economies of scale. Buxey (2005) and Svensson (2001) have detailed studies of the phenomena of linkages between firm outsourcing and the occurrence of supply chain distribution. The equation was based on

two phases; phase one is based on qualitative studies illustrating the core benefits of outsourcing distribution channels. Furthermore, the second phase of the research was based on quantitative studies in which different statistical methodologies were adapted to test the findings of the first phase in a macro context. After the analysis, the research examines the massive efficiency level and progress in cutting costs for the firm, which outsources its entire supply chain network.

In this dynamic environment where organizations need to be competitive in order to survive, it increases the complexity of their operations; similarly, outsourcing any of the departments increases the spatial complexity, which needs to be managed by the managers to avoid losses and increase outsourcing performances (Hashmi, 2022). Traditional approaches and strategies used by top managers to outsource departments are to cut costs and minimize risk by diversifying operations to different outsource companies, but sometimes it's been observed that outsourcing itself becomes a huge risk and costly to revert to the decisions. As it expands its roots, structural and contractual complexity rises, which is different for the top managers as it's different from dependent business activities (Alexander & Young, 1996). Indeed, a considerable risk is involved in outsourcing in today's business practices, which results in a loss of competence even in the in-house core operations of the businesses (Bettis et al., 1992; Hashmi, 2023). As per the recent research of Diamond Cluster International, 78% of the managers who outsourced their IT operations had to terminate their contract permanently and decide to revert to their operations. The main consequences of this act illustrate the darker story of business outsourcing operations risk. The main reasons for dissatisfaction were poor or below-average performance, a rise in coordination costs, and a change in strategic direction. Sorting out the wrong objectives is problematic for the managers and vendors to meet the desired performance due to changing market conditions or technological evolutions and advancements. Further, there is an emerging market trend towards back-sourcing in the IT outsourcing sector, where organizations revert to their operations after the end of their contracts. However, organizations must bear the cost of outsourcing functions back in-house. As a matter of fact, new research has been carried out that explains the eight to nine months for an organization to revert back to their operations or switch to another vendor at the end of their prior contract. Figure 1 shows the conceptual model of this research.



Figure 1: Conceptual framework

Source: Author's creation with the support of literature

In order to measure the independent variables in supply chain capabilities, four dimensions are used: quality, sourcing, delivery time and planning. Researchers have suggested that the independent variables go on the x-axis, i.e., the bottom side, the horizontal one. Two independent variables are not directly associated with the hypothesis but significantly impact them. Organizational supply chain capabilities: further evaluation based on network, coordination cost, operation cost, and inventory holding cost.

In organizational responsibilities, the dependent variables are the employee behaviours managers try to manipulate. Productivity, absenteeism, turnover, organizational citizenship, and job satisfaction are five different types of these habits. There is a significant distinction between job satisfaction and the other four dependent variables that precede it, i.e., job satisfaction is an attitude. At the same time, productivity, absenteeism, turnover and organizational citizenship are behaviours. Researchers have suggested that the dependent variables go on the y-axis, i.e., the left side, the vertical one. Therefore, the following hypothesis is proposed:

H1: Organizational supply chain capabilities significantly positively affect organizational responsiveness.

3. Methodology

This analysis was carried out using the method of inductive testing. In this review, the primary reason for using the inductive research method is to present the findings and conclusions based on facts and actual observations (Rasheed et al., 2023; Khan et al., 2023a). This study has been supported by an inductive research technique to test the hypothesis based on the theory's testing. Data collection and testing is achieved through the selection of inductive research that has helped to achieve the aims of this study through qualitative means (Hashmi et al., 2020a; Khan et al., 2023b). This research has been planned using quantitative analysis methods (Khan et al., 2021; 2022; Rashid et al., 2022a). The following research has been carried out primarily using quantitative research methods (Hashmi et al., 2021; Rashid et al., 2022b). In this study, data and analysis are measured through quantitative research methods. This study focuses on the evidence and conclusions based on qualitative approaches and presents them. The primary objective of using quantitative approaches to design and perform this analysis is to understand the relationship and effect of independent variables on dependent variables. On the other hand, qualitative research may have an influence on trustworthiness issues. Therefore, quantitative research was deemed appropriate (Haq et al., 2023).

The sampling design used for this study is a random sampling technique. The population of this research is firms that possess supply chain capabilities. The total population includes organizations that possess supply chain capabilities. The random sampling technique was used to collect the primary data, and secondary data were collected from different research papers, books and previous studies that researchers have done. The sample size used for this research is 100 respondents from different firms with supply chain capabilities, and the sample size is identified based on firms' supply chain capabilities and organizational responsiveness. According to Hashmi et al. (2020b), a sample size of 100 is sufficient for analysis. The sample size was decided based on previous research that has been done. Data was collected randomly from different firms. Firstly, the data collection was based on a few individual firms. Secondly, data collection was based on one key respondent per company to understand a firm's supply chain capabilities better.

The data collection method was followed individually. The questionnaire in this report is the research method used to collect the data from the respondents. The questionnaire uses literature; the questions are answered by specifying the details in the literature review. There are different questions in this study's questionnaire (Agha et al., 2021; Haque et al., 2021). Each variable is mentioned in a separate section of the questions and the listed related questions. The Likert scale, used as a ranking scale, was used to construct the questionnaire. The Likert scale has two rating scales (a rating scale can be defined as a set of categories designed to elicit information about a quantitative or qualitative attribute) (Alrazehi et al., 2021; Das et al., 2021). This rating scale helped researchers measure the response rate of the respondents.

3.1 Statistical technique and ethical consideration

The linear regression method was most suitable for this research as it uses random sampling techniques. The ethical factors in the area of organizational supply chain capabilities and organizational responsiveness are susceptible. This is because, in various organizations, the individual involved in the transfer is responsible for investing many financial resources (Carter, 2000). Like sales or marketing staff, procurement specialists are strongly external to the organization's environment. Therefore, when success is carried out on immoral grounds, a company's credibility is firmly at risk. In addition, due to ethical rules, supply chain practitioners should not relinquish their obligation to track, manage, and pick the supplier (Amaeshi et al., 2007).

Supply is the primary goal of the supply chain. Practices are known as ethical supply regarding the constructive way to deliver services and products to the consumer by pursuing an ethical way. The

supply chain problems can be expanded to include all the attributes of the supply chain beyond product design, means, and objectives. Value addition can be developed for stakeholders and consumers through productive supply chain practices. By embracing these strategies, the company will create a point of differentiation to represent its customers better. Ethical involvement is a very efficient way to add quality, particularly for supply operators who face ethical issues more often (Eltantawy et al., 2009; Rashid & Rasheed, 2022).

As the burden on companies from all shareholders to act sensibly is rising, companies have taken several measures to behave and transact ethically. In addition, they are interested in setting basic social and environmental responsibility standards within the industry framework (Hughes, 2001). More precisely, ethical standards effectively illustrate social and environmental organizational impacts within a supply chain. There are a range of aspects of chain management ethics involving low-carbon policies, fair trade, responsible procurement, and social responsibility, and previous studies have also concentrated on these aspects. Therefore, consent was obtained from the involvement of ethics in the relationship between organizational supply chain capabilities and organizational responsiveness.

4. Results with Discussion

This section describes the data analysis, followed by a discussion of the research findings. The findings relate to the research questions that guided the study. Data were analyzed to identify, describe and explore the relationship between “organization responsiveness” and “organization supply chain capabilities “of supply chain business process outsourcing. Data was obtained from self-administered questionnaires completed by 200 students. Only half of the total respondents were employed, and they have experience with supply chain business process outsourcing. In this research, a questionnaire is the research instrument that is used to collect the data from the respondents. The questionnaire is designed with the help of literature; the questions are asked by identifying the facts mentioned in the literature review. The questionnaire for this research has nine questions about both variables. Each variable is mentioned in a separate section of the questions and the listed related questions. The questionnaire has been designed using a Likert scale, which is used as a rating scale. The Likert scale has ratings from 1 to 5, along with options like strongly disagree, disagree, neutral, agree, and strongly disagree.

Table 1: Reliability Statistics

Cronbach's Alpha	N of Items
.804	9

Source: SPSS output

As we can see in Table 1, Cronbach's Alpha value for this model is 0.804, which is closer to 1. Interpreting the reliability and validation model is significant for this research. The model is suitable for the research to be continued. The final reliabilities for all scales were more significant than .60 in all cases. A reliability test for the two factors resulted in Cronbach's alpha of 0.804 "Organization Responsiveness" and "Organization Supply Chain Capabilities". Though 0.60 is acceptable for a five-point scale or less, more statements relating to the construct would considerably improve the scale's reliability. As such, the measure was judged adequate to examine the hypothesized relationships. On average, our estimates of Supply Chain Business Process Outsource with this model will be wrong by .56. Table 1 above shows the result of the reliability test analysis (Hashmi & Mohd, 2020; Hashmi et al., 2021b). The value of Cronbach’s Alpha is 0.804; the number of items in the data set is 14. The calculated value exceeds the requirement of 0.7 value, and more than 0.8 is considered excellent (Rashid et al., 2020; Sekaran, 1992).

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.629 ^a	.395	.389	.57622

a. Predictors: (Constant), Organization Supply Chain Capabilities, Organization Responsiveness
 b. Dependent Variable: Supply Chain Business Process Outsource

Source: SPSS output

A multiple regression analysis was then conducted to examine the relationship between the supply chain business process outsourcing as a dependent variable when measured by a composite measure of supply chain business process outsourcing and the two factors "Organization Responsiveness" and "Organization Supply Chain Capabilities". As we can see in Table 2, the R2 value of this study is 0.395, which shows that 39.5% impact of organization responsiveness results indicate that organization supply chain capabilities have a significant impact (the value is less than 0.05) on supply chain business process outsourcing (Rashid et al., 2019).

Table 3: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.529	2	21.265	64.045	.000 ^b
	Residual	65.077	196	.332		
	Total	107.606	198			

a. Dependent Variable: Supply chain Business Process Outsource

b. Predictors: (Constant), Organization Supply Chain Capabilities, Organization Responsiveness

Source: SPSS output

Table 3 shows the output of the ANOVA analysis and whether there is a statistically significant difference between our group means. We can see that the significance value is 0.000 (i.e., $p = .000$), which is below 0.05, and therefore, there is a statistically significant difference in the mean between "Organization Supply Chain" and "Responsiveness" (Rashid & Amirah, 2017).

Table 4: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
		Coefficients		Beta		
1	(Constant)	.928	.153		6.062	.000
	Organization Responsiveness	.344	.065	.378	5.308	.000
	Organization Supply Chain Capabilities	.308	.069	.319	4.473	.000

Dependent Variable: Supply Chain Business Process Outsource

Source: SPSS output

Standardized coefficients can be compared across variables within a model. Standardized coefficients reflect not only the strength of the relationship but also the variances and covariances of variables included in the model and the variances of variables not included in the model and subsumed under the error term. Standardized parameter estimates are transformations of unstandardized estimates that remove scaling and can be used for informal comparisons of parameters throughout the model. As per Table 4, organization responsiveness has a beta coefficient of 0.344. So, for every point increase in organizational responsiveness, there is a 0.344-point increase in supply chain business process outsourcing. Organizational supply chain capabilities have a beta coefficient of 0.308. So, for every point increase in organizational supply chain capabilities, a 0.308-point increase in supply chain business process outsourcing is needed. The coefficient table provides us with the necessary information to predict organizational responsiveness from organizational supply chain capabilities, which contribute statistically significantly to the model (by looking at the "Sig." column), which is less than 0.05 as the constant value is 0.000 (Rashid, 2016). The results showed that the hypothesis is significant and accepted, as the sig value is 0.000. Both variables, "Organizational Supply Chain Capabilities" and "Organization Responsiveness", positively impact business process outsourcing from the supply chain.

5. Contribution of the Study

Even though the literature on the relationship between company supply chain capabilities and organizational responsiveness practices is diverse in viewpoint and experiences, it serves as a common ground for optimizing organizational efficiency. These researchers' results, as well as the findings of this study, argued that supply chain management activities would significantly contribute to consumer relationships, seamless information exchange, and consistency of information sharing through supply chain systems, including the organization's supply chain capability and responsiveness. Furthermore,

since the combined practices of supply chain capabilities and company responsiveness have been addressed in this report, this study can also provide a definitive environment for improving the overall organization's efficiency.

5.1 Implications and Limitations of the Study

The current research establishes a relationship between organizational supply chain capabilities and responsiveness. Even though some organizations recognize the value of integrating supply chain capabilities and enterprise responsiveness, they frequently need to know what constitutes a comprehensive collection of SCM practices. The current study offers a brief overview of the relationship between organizational supply chain capabilities and responsiveness by introducing, designing, and validating a multi-dimensional, operational measure of the construct of organizational supply chain capabilities and responsiveness practice, as well as demonstrating its effectiveness in improving organizational efficiency and competitive advantage. The revalidation of constructs was not carried out in this study due to the small number of observations, which is one of the research's limitations. Other limitations include the small number of sources and time restrictions. The research's results consisted of responses from single respondents within an organization, which may be a source of response bias and another study limitation.

5.2 Recommendations

Future research that replicates this study across various industries and sectors will help us better appreciate the responsiveness and capacities of corporate supply chains. The survey consisted of a small number of companies in a specific field, and the research was conducted using a self-reported questionnaire. As a result, respondents may react in ways considered more attractive or fitting than what they have actually observed or believed. While conducting this research, researchers faced many issues, but significant issues were faced during the data collection. The availability of the respondents was the primary concern while collecting the data. To diminish this limitation, researchers selected the non-random sampling technique to get the respondents' responses in a given and limited time period. The sample size was another issue and limitation of this research, which was selected by considering the available resources. The research can be made to enhance organizational performance through organizational supply chain capabilities and responsiveness. Increasing customer satisfaction by meeting their needs (on-time, on-budget delivery of quality components) helps manufacturers meet their customer commitments. Identifying, recording, and automating market processes that cover all manufacturer/supplier relationships ensures consistent delivery, certainty, and operational efficiencies, resulting in increased supply chain responsiveness. When vendors and retailers are on the same page about how success will be measured and when such evaluations are performed systematically and daily, supply chain responsiveness improves. Thus, this should be kept in consideration.

5.3 Conclusion

The main aim of this research was to analyze the relationship between organizational supply chain capabilities and responsiveness. After analyzing the relationship, we can conclude that there is a positive influence of organizational supply chain capabilities on organizational responsiveness, and both organizational responsiveness and capabilities are significant for the organization's overall performance and influence the organization. Therefore, the firm's strategies must be up to par for a positive effect on the organization's performance.

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