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Effect of Supply Chain Integration on Organization Performance: A Mediating Role of Competitive Advantage. An Evidence from Manufacturing Firms in Ethiopia

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Abstract

This study aimed to fill a knowledge gap in the literature by examining the effect of SCI on organization performance with competitive advantage. It used a mixed approach and an explanatory and descriptive research design. The study collected data from both primary and secondary sources and used probability sampling, specifically simple random sampling, to examine the relationship between SCI ingredient and organizational performance. The survey was conducted using self-administered and structured, closed-ended questionnaires that were distributed to respondents. Amos in SPSS was used to evaluate the data. While SEM (structural equation model) analysis was used to characterize the causal influence between and among the dependent and independent variables under inquiry, correlation analysis was used to determine the direction and intensity of the association between variables. According to the study, all SCI components and organizational performance have a positive and statistically significant relationship. Regarding SEM analysis, the study discovered that SCI had a favorable and noteworthy impact on organizational performance and competitive advantage. The study came to the conclusion that improved organizational performance results from the application of SCI and competitive advantage. It is advised that businesses consistently apply SCI correctly in order to enhance performance and obtain a competitive edge.

Keywords: Supply chain integration, competitive advantage, performance

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Introduction

The integration of inter-firm production and process capability is the focus of supply chain management (SCM). SCM, to put it another way, is the process of combining production and process planning with supply chain systems (e.g. to the end-customer) control and monitoring. Studies on supply chain management (SCM) have drawn a lot of attention due to its significance (Amentae et al., 2024). It is now considered the fundamental approach to the functioning of modern businesses (Taylor, 2025), a situation brought about by the heavy reliance on global suppliers. Additionally, businesses are becoming more horizontally integrated across processes in this era of globalization.Businesses have been compelled by fierce competition to go outside of their own neighborhoods in order to get a competitive edge. According to (Menz et al., 2021), companies now operate in a fast evolving environment as a result of globalization, fierce rivalry, diversification, growing consumer demands and expectations, and increased emphasis on corporate social responsibility. (Ralston et al., 2023) contend that because supply networks will compete with one another, there may come a time when businesses must decide which supply chain to join.

Close cooperation between the participants in the inter-firm operations within the supply chain will be necessary to achieve this. They can accomplish this by integrating their operations, which is how supply chain integration (SCI) came to be. Research on the relationship between SCI and other performance factors, including competitive advantage and organizational performance, is growing (Farida & Setiawan, 2022). The concept of supply chain integration has been operationalized differently by different academics. According to others, it is a one-dimensional construct. Some have distinguished between internal and exterior integration. Only a portion of supply chain integration was used by other researchers. (Wang et al., 2024) only employed external integration. (Qian et al., 2021), employed supplier integration only, whereas only used customer integration. However, the three dimensions of supply chain integration have been employed by the great majority of researches (Donkor et al., 2024). All three supply chain integration facets were employed in this study to fully estimate their impact on business performance. The difference between two or more players on any dimension that allows one to provide a higher value for the client than the other is known as competitive advantage. Furthermore, (Thomran et al., 2022) contends that by highlighting the importance of value creation for the consumer, this concept builds upon (Rua & Santos, 2022). It makes operationalization easier by drilling down to a more fundamental level from the more generic types of competitive advantage, such cost and distinctiveness.

Excellent quality and dependability, prompt delivery, quick launch of new products, improved customer service, and the primary sources of competitive advantage in the post-industrial era are improved capital deployment rather than merely cost reduction. firm performance, also known as organizational performance, is the degree to which a business meets its financial and market objectives relative to the industry average. Unlike operational performance, which is at the process or work unit level, it is the firm's performance at the strategic level.

Methodology

This study's main goal is to present a thorough, quantitative, and integrative analysis of empirical research that relates SCI to total business performance while taking into account the mediating function of firms' competitive advantage. The goal of the study is to prove that SCI precedes competitive advantage, which mediates the relationship between SCI and business performance. The purpose of the study is to provide the idea of connection complexity level and explore how it affects the relationships in the framework. Examining the potential effects of different study design elements on the relationship between SCI and firm performance, with competitive advantage acting as a mediating influence, is another benefit. The process of integrating something so that it becomes a complete component of another is known as supply chain integration.

This integration characteristic is considered significant since the entire process must be seen as a single system. Through coordination, all supply chain members' decisions are focused on maximizing overall chain profits, and all activities related to meeting customer requests are integrated. Accordingly, the degree to which all of an organization's functional activities as well as those of its suppliers, customers, and other supply chain partners are connected and integrated is known as supply chain integration. To be more precise, supply chain integrations are the network connections that a company or organization has with its suppliers and customers, integrating their activities, relationships, and processes.

Development of distinctive logistics practices and capabilities can give businesses a competitive edge, according to prior research. The effectiveness and efficiency of logistics have an effect on competitive priorities such pricing, availability, the seamless flow of goods and services, and satisfying consumer expectations, according to reports. But according to reports, Ugandan companies have poor logistics performance, which hurts their competitiveness. This includes delayed deliveries, data invisibility, and poor customer service delivery. The literature proposes a number of logistical capacity dimensions. However, a sizable body of research agrees that supply management, demand management, and information management skills are all essential for developing and strengthening competitive advantage.

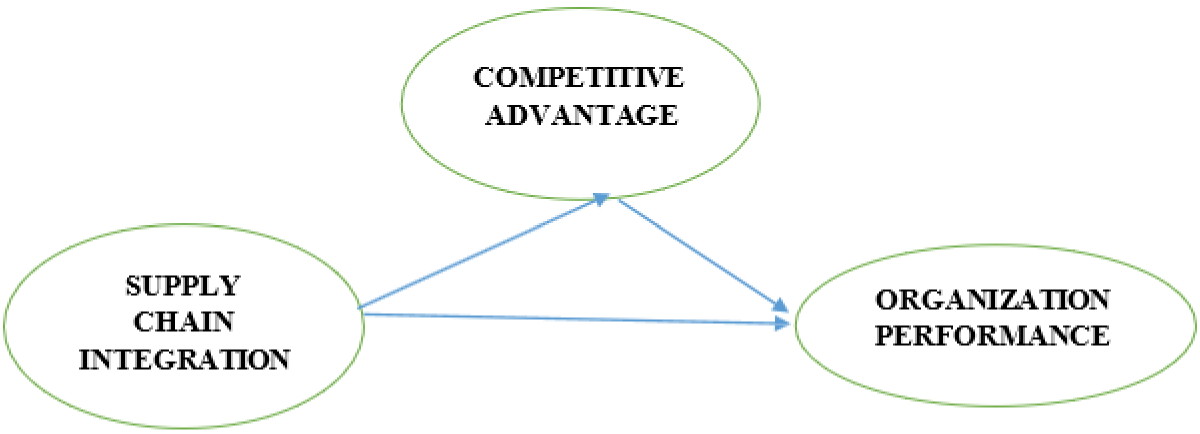

Figure 1. Framework of SCI and organization performance by considering competitive advantage as mediating effects

Results and Discussion

The following is a comprehensive summary of the literature, retaining key references:

Theoretical Foundation

This research builds on several key theories that explain how companies achieve competitive advantage: *Resource-Based View (RBV);* Organizations achieve competitive advantage when they possess resources that are valuable, rare, difficult to imitate, and non-substitutable (Chauhan et al., 2022). These resources include human, physical, and organizational capital (Busse et al., 2017); Relational View (RV): Competitive advantage arises from inter-firm relationships through supply chain integration that generate relational rents :Knowledge-Based View (KBV): Focuses on the exchange of strategic and operational information across organizational boundaries; Social Exchange Theory (SET): Emphasizes relational governance mechanisms such as trust and commitment. Transaction Cost Economics (TCE): Integration helps reduce transaction costs and the threat of opportunism.

Supply Chain Integration (SCI)

SCI is the degree of interaction and collaboration between a company and its suppliers and customers (Hendijani & Saeidi Saei, 2020). SCI Dimensions: Internal Integration: Coordinating strategies and processes within the company to meet customer (Anwar et al., 2025); Supplier Integration: Coordinating core competencies with key suppliers ; Customer Integration: Coordinating with customers to create added value; Benefits of SCI: Helps companies face global competition, reduces costs and reduces the bullwhip effect (Sang et al., 2024).

Organizational Performance

Performance measurement is crucial yet complex in management (Naslund & Norrman, 2019). Performance dimensions include: Financial Performance: Return on Investment (ROI), net profit margin, and profitability (Cunha et al., 2023); Operational Performance: Improvements in cost, quality, delivery, flexibility, and innovation. Customer-Oriented Performance: Customer satisfaction and loyalty.

Competitive Advantage

Competitive advantage arises from a company's ability to create superior value for buyers that exceeds the cost of creating it (Tukamuhabwa et al., 2023). Key Dimensions (Mahdi & Nassar, 2021): Price/Cost: The ability to compete through low prices; Quality: Offering higher value to customers; Delivery Reliability: Timeliness and volume; Product Innovation: Introducing new products/features; Time to Market: The speed of product introduction compared to competitors.

Relationships Between Variables (Hypotheses)

Based on the literature review, the proposed relationships are: H1: Supply chain integration (SCI) significantly impacts organizational performance (Mukhsin & Suryanto, 2022): SCI significantly impacts competitive advantage; H3: Competitive advantage has a direct impact on organizational performance.

Table 1. KMO and Bartlett’s test for SCI, Competitive Advantage and Performance

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.759
Bartlett's Test of Sphericity	Approx. Chi-Square	748.338
	df	15
	Sig.	.000

Conclusion

The conclusions of the study, therefore, have varied managerial implications. The managers of the organizations need to assess the extent to which their SCI leads to organization performance improvement. In line with this, managers will be able to promote the positive influence of SCI practices via employee performance to achieve the main philosophy behind SCI. The implementation of these practices, together with Competitive advantage, will lead to better financial and employee performance of the organization. Based on this study, it is advocated that future study should focus on the influence of culture on SCI practices since organizational culture has effect on organizational performance.

Conflicts of Interest

The authors declare no conflict of interest.

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Author contribution

Conceptualization; methodology; formal analysis.; investigation; resources, writing—preparation of original draft; writing—reviewing and editing.; visualization; supervision; project administration, obtaining funding, G. M., M. L. All authors have read and approved the published version of the manuscript.

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