Exploring the Nexus Between Supply Chain Responsiveness, Competitive Advantage, and Organizational Performance in Ghana's Retail Service Sector

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Abstract. This study evaluates the influence of supply chain responsiveness (SCR) on competitive advantage and organisational performance within Ghana's retail service industry, an area that remains insufficiently examined in emerging market service economies. Adopting a quantitative explanatory framework, primary data were gathered from 80 retail businesses participants across eight commercially active regions in Ghana using structured survey instruments. The study investigated three core dimensions of SCR: Operations System Responsiveness, Logistics Process Responsiveness, and Supply Network Responsiveness, while assessing their effects on Competitive advantage, and overall organisational outcomes. Reliability and validity were established using Cronbach's alpha and exploratory factor analysis, while correlation and regression analyses were employed to test hypothesised associations. Findings indicate that each responsiveness dimension exert a positive and statistically significantly effect on both competitive advantage and organisational performance. Logistics process responsiveness demonstrated the strongest contribution to competitive differentiation, whereas, supply network responsiveness showed the greatest influence on organisational outcomes. These results emphasise that agile and adaptive supply chain capabilities are essential strategic resources retail firms operating in dynamic business environments need. The study contributes context-specific empirical evidence from Ghana and offers valuable practical insights for managers and policymakers seeking to strengthen long-term competitiveness, resilience, and service excellence.

Keywords: Supply Chain Responsiveness, Competitive Advantage, Organizational Performance, Retail Services, Ghana.

1 Introduction

The growing complexity of global business environments has intensified the need for oraganisations to develop responsive supply chain systems capable of adjusting to evolving customer expectations, technological shifts, and market uncertainties [1,2]. Supply chain management (SCM) has therefore progressed beyond traditional operational coordination to become a strategic mechanism for sustaining competitiveness

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and improving organizational resilience [3]. While existing scholarship has extensively examined supply chain practices in manufacturing contexts, comparatively limited attention has been directed toward service-based sectors particularly within emerging economies where infrastructure challenges and resource limitations significantly shape business operations [4].

In emerging economies such as Ghana, retail firms operate within highly dynamic conditions characterized by fragmented logistic networks, inconsistent supplier coordination, and changing customer demands [5]. These factors increase strategic relevance of supply chain responsiveness, defined as the capacity of firms to react effectively to market fluctuations through flexible operational systems, efficient processes, and adaptive supply networks [6]. Despite its significance, empirical evidence regarding the relationship between supply chain responsiveness, competitive advantage, and organizational performance in sub-Saharan African service sectors remains underdeveloped [7, 8].

This study addresses this gap by investigating how supply chain responsiveness contributes to strategic competitiveness and performance enhancements in Ghana's retail service industry. By focusing on an underexplored geographical and sectoral context, the research broadens supply chain management theory and provides valuable managerial insights to service-oriented businesses in developing markets.

2. Methods

This study utilised a quantitative, explanatory research design to analyse the interrelationship among supply chain responsiveness, competitive advantage, and organizational performance within Ghana's retail sector. A structured questionnaires incorporating close-ended items and five-point Likert-scale was employed as the primary data collection instruments [9] . Survey measures were adapted from validated prior studies to ensure conceptual reliability and consistency. The target population consisted of retail service firms operating across Ghana. A purposive sampling was applied to select eight economically significant regions, including Greater Accra, Ashanti, Eastern, Western, Central, Volta, Bono-East and Northern. Ten retail firms were selected from each region, resulting in a final sample size of 80 respondents.

To validate measurement adequacy, the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of sphericity were conducted prior to factor analysis. Exploratory factor analysis using principal component extraction with varimax rotation to perform and confirm construct dimensionality. Internal consistency reliability was assessed using Cronbach's alpha coefficients, with all variables exceeding thresholds. Correlation analysis was used to examine association among study variables, while multiple regression analysis tested the predictive effects of supply chain responsiveness dimensions on competitive advantage, and organizational performance. This methodological approach ensured analytical rigor and strengthen the reliability of the findings.

3. Results and Discussion

This study examined the relationships among supply chain responsiveness (SCR), competitive advantages (CA), and organizational performance (OP) within service-oriented firms in an emerging economy, while integrating contemporary supply chain management (SCM) perspective shaped by digitalization, resilience, and industry 5.0 recent literature emphasizes that SCR is increasingly driven by digital technologies such as artificial intelligence (AI), big data analytics, blockchain, cloud logistics, and internet of things IoT), which collectively enhance agility, visibility, and human-centric decision-making across supply chains [1-3]. In alignment with these developments, the study tested two hypotheses:
H1: supply chain responsiveness is positively related to a firm's competitive advantage.
H2: supply chain responsiveness is positively related to organizational performance.

Reliability And Construct Validity
The measurement model demonstrated strong reliability across all constructs,with Cronbach's alpha values exceeding recommended benchmarks. Factor analysis confirmed that operational responsiveness, logistics responsiveness, and supply network responsiveness represent distinct yet interconnected dimensions of supply chain responsiveness [8, 10].

Table 1. Reliability and Construct Validity

Construct	No. of Items	Cronbach's Alpha
Operation System Responsiveness	6	0.746
Logistics Process Responsiveness	5	0.854
Supply Network Responsiveness	5	0.762
Competitive Advantage	20	0.917

Source: Author's Work

Descriptive Statistics
Descriptive analysis revealed that logistics process responsiveness recorded the highest mean among responsiveness dimensions suggesting that retail firms in Ghana place considerable emphasis on logistical flexibility and delivery efficiency. Competitive advantage also recorded relatively strong mean values, indicating that responsiveness capabilities contribute meaningfully to strategic positioning.

Table 2. Descriptive Statistics

Latent variables	Operation System Responsiveness	Logistics Process Responsiveness	Supply Network Responsiveness	Competitive Advantage	Organizational Performance
Mean	5.208	5.488	4.845	5.319	4.822
Median	5.259	5.409	4.101	4.678	5.325
Mode	5.400	6.500	4.001	7.000	5.153
Min.	1.000	1.400	1.000	1.600	1.000

Latent variables	Operation System Responsiveness	Logistics Process Responsiveness	Supply Network Responsiveness	Competitive Advantage	Organizational Performance
Max.	7.000	7.000	7.000	7.000	7.000
STD	1.145	1.241	1.365	1.267	1.389

Source: Author's Work

Correlation Analysis

Pearson correlation results showed significant positive associations among all SCR dimensions, competitive advantage, and organization performance. These findings suggest that improvement in responsiveness capabilities is consistently liked to stronger market competitiveness and enhanced firm outcomes.

Table 3. Correlation Matrix

Variable	OP	CA	OSR	LPR	SNR
OP	1				
CA	0.687**	1			
OSR	0.376**	0.654**	1		
LPR	0.561**	0.728**	0.463**	1	
SNR	0.498**	0.491**	0.497**	0.599**	1

Note. **: Correlation is significant at the 0.01 level (2-tail).

Source: Author's Work

Hypotheses Testing

Regression analysis confirmed that supply chain responsiveness significantly predicts competitive advantage and organizational performance.

Hypothesis 1: SCR and Competitive Advantage

Supply chain responsiveness positively influence competitive advantage. Logistics process responsiveness emerged as the strongest predictor, indicating that efficient logistics system significantly enhances differentiation, customer satisfaction, and market strength.

Hypothesis 2: SCR and Organisation Performance

Supply chain responsiveness positively influences organisational performance. Supply chain network responsiveness demonstrated the strongest predictive effect, highlighting the importance of collaborative supplier relationships and adaptive network structures in achieving sustained business success.

The findings reinforce the strategic significance of supply chain responsiveness as a core organizational capability in the digital and Industry 5.0 era. Consistent with recent studies, SCR is no longer limited to traditional operational speed but increasingly encompasses digital resilience, predictive analytics, and intelligent logistics, and sustainable ecosystem integration. [11-13]. The strong influence of logistics process responsiveness on competitive advantage highlights the role of digital innovations, such as AI-enabled forecasting, smart warehousing, and real-time delivery systems in enabling firms to outperform competitors.

Furthermore, the dominant effect of supply network responsiveness on organizational performance underscores the growing importance of interconnected supplier ecosystems, blockchain-enabled transparency, and collaborative digital platforms in enhancing resilience and long-tern sustainability. These findings are consistent with emerging Industry 5.0 literature, which emphasizes human-centric, technology-driven supply chains sources of strategic advantage [14, 15].

These outcomes align with contemporary strategic management perspectives that view responsive supply chain as dynamic capabilities capable of generating sustained competitive benefits. For firms operating in developing economies, investments in logistics innovation, supplier integration, and operational flexibility are essential for navigating uncertainty and maintaining strategic relevance.

4. Conclusion

This study provides empirical evidence that supply chain responsiveness significantly contributes to both competitive advantage and organizational performance within Ghana's retail industry. Operational, logistics, and network responsiveness collectively enhance business adaptability, strengthen market competitiveness, and improve long-term organizational outcomes.

The findings suggest that retail firms seeking sustainable growth must prioritise agile supply chain strategies capable of responding effectively to market volatility and evolving consumer expectations. Supply chain responsiveness should therefore be considered a strategic asset rather than solely an operation function.

Despite its contribution, this study is limited by its cross-sectional design, relatively small sample size, and focus on a single sector within Ghana. Future studies should consider longitudinal designs, broader industry comparisons, and additional strategic variables such as technological innovation, supplier relationship quality and digital transformation to further deepen understanding of supply chain responsiveness in emerging economies.

Overall, this research advances supply chain management scholarship by extending responsiveness theory into an underrepresented service-sector context while offering practical implications for strengthening competitiveness and organization sustainability.

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