Post-Pandemic Shift in Procurement Behavior: Evidence from Logistics Service Selection in the Chemical Industry

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Abstract.
Logistics has become increasingly critical in maintaining supply chain stability, particularly in industries such as chemicals where operations involve higher levels of complexity and risk. The disruptions experienced during the COVID-19 pandemic—ranging from transportation delays to cost fluctuations—have not only affected operational performance but also influenced how companies evaluate logistics service providers (LSPs). This study explores how procurement priorities have shifted in response to these changes. By combining the Analytical Hierarchy Process (AHP) and SERVQUAL, the research attempts to capture both what customers consider important and how they perceive actual service performance. The study was conducted at a logistics service provider in Indonesia serving the chemical industry. The findings suggest that assurance, reliability, and responsiveness have become more important than cost in selecting LSPs. However, these same dimensions also show the largest performance gaps. This indicates that, although expectations have changed, service delivery has not fully kept pace. The results highlight the need for logistics providers to adjust their service approach in a more consistent and customer-oriented manner.

Keywords: *Logistics, Logistics Service Provider, COVID-19, Procurement, Purchasing Behavior, Service Quality, AHP, SERVQUAL and Total Quality Management.*

I. INTRODUCTION

The role of logistics in supply chain management has changed quite significantly over the past decade. In industries such as chemicals, where safety, compliance, and coordination are essential, logistics is no longer just a supporting activity but a key component of operational success.

Before the pandemic, procurement decisions in logistics were largely driven by cost considerations (Monczka et al., 2020). This approach was relatively stable as long as supply chains operated under predictable conditions. However, the COVID-19 pandemic disrupted that stability. Issues such as port congestion, limited transport capacity, and unpredictable delivery times became common (Rokicki et al., 2022; Rodrigue, 2023).

Under these conditions, relying solely on cost efficiency became increasingly risky. Companies began to prioritize other aspects, such as reliability and responsiveness, to ensure continuity of operations (Ivanov, 2022). Logistics service providers, therefore, were expected to do more than execute shipments—they needed to anticipate problems and respond quickly when disruptions occurred (Zenezini et al., 2024).

While many studies have discussed changes in logistics and supply chain management, fewer have looked at how these changes influence procurement behavior in a more detailed way. In particular, there is still limited discussion on whether the aspects that companies consider important are reflected in service performance.

This study tries to address that point by combining AHP and SERVQUAL. Rather than looking at priorities and performance separately, the study brings them together to see whether they are aligned or not in a post-pandemic setting.

Global disruptions such as port closures, container shortages, and fluctuating demand exposed structural vulnerabilities in supply chains that were previously optimized for cost efficiency. Consequently, organizations have shifted their focus toward supply chain resilience, reliability, and continuity (Rokicki et al., 2022). Companies are increasingly adopting integrated logistics approaches to improve visibility, coordination, and responsiveness across supply chain activities. The adoption of digital technologies,

including real-time tracking and data integration systems, has also become essential in managing uncertainty and enhancing operational performance.

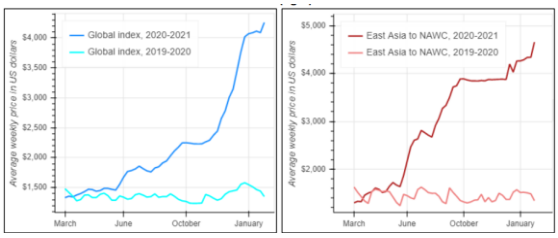


Fig 1. Year-over-year (YoY) price changes on the Freightos Baltic Index (FBX) Global Container Index (left) and the East Asia to West Coast of North America route index (right)

The role of LSPs is particularly critical in the chemical industry, where logistics operations involve high levels of complexity and risk. The transportation and storage of hazardous materials require strict compliance with international regulations such as ADR, IMDG, and IATA, as well as specialized infrastructure, safety systems, and trained personnel (Rushton). These requirements make logistics in the chemical sector significantly more demanding compared to other industries.

Furthermore, the chemical supply chain is characterized by demand uncertainty, geographically dispersed facilities, and resource constraints, which necessitate a high level of coordination across procurement, production, transportation, and distribution. In this context, integrated logistics becomes essential to ensure efficiency, safety, and responsiveness. Effective coordination across supply chain functions enables firms to optimize resource utilization, reduce operational inefficiencies, and maintain service continuity (Engell, 2008).

Overall, the literature indicates a fundamental shift in logistics from a cost-driven function to a value-driven and resilience-oriented capability. This shift is particularly evident in the post-pandemic context, where service quality, flexibility, and risk management have become key considerations in logistics decision-making. Consequently, understanding how LSPs can align their service capabilities with evolving customer expectations is essential, especially in high-risk industries such as chemicals.

II. METHODS

This research uses a quantitative approach, but the intention is practical—to understand how decision priorities compare with actual service performance.

The AHP method is first used to identify which criteria are considered most important when selecting a logistics service provider (Saaty, 2008). This step relies on input from three experts with long experience in logistics and procurement. Their judgments are used to build pairwise comparisons, and consistency is checked to ensure the results are reliable.

Table 1. Expert Profile for Research

Expert	Experience	Designation	Education
Expert 1 (Logistic Expert)	22 Years	Head of Operation at Multinational LSP	Bachelor Management
Expert 2 (Logistic Expert)	17 Years	Logistic Manager at Multinational Chemical Company	Magister Management
Expert 3 (Procurement Expert)	15 Years	Procument Manager at Multinational Chemical Company	Industrial Engineer

After that, SERVQUAL is applied to measure the difference between what customers expect and what they experience (Parasuraman et al., 1988). The questionnaire was distributed to nine key customers of the logistics provider. While the number is not large, the respondents represent major clients with direct operational involvement.

The analysis focuses on identifying patterns rather than producing generalizable statistical conclusions. In other words, the study aims to highlight where the gaps are and how they relate to decision priorities.

The SERVQUAL questionnaire showed in table 2 below.

Table 2. SERVQUAL Questionnaire

Dimension	Sub Criteria
Assurance	The company's staff builds customer trust and confidence in the logistics service provided.
	The company provides effective complaint handling and convenient procedures for returns or service discrepancies.
	The company ensures customers feel safe and secure during service and delivery processes.
	The company offers transparent, reasonable service terms and keeps customers informed about service conditions and updates.
Empathy	The company provides convenient and flexible service hours that accommodate customer schedules.
	The company's staff provides personalized attention and individualized service to each customer.
	The company's staff understands customer needs, difficulties, and priorities when delivering logistics services.
	The company's staff demonstrates patience, respect, and genuine care when serving customers.
Reliability	The company's staff delivers logistics services punctually in accordance with the agreed schedules
	The company fulfills all logistics service promises and contractual obligations as agreed.
	The company's staff delivers goods without damage, loss, or service failure
	The company's staff proactively communicates with customers and confirms orders before service execution.
Responsiveness	The company provides flexible payment options to accommodate customer needs.
	The company's staff clearly informs customers about the exact timing and completion of logistics services.
	The company responds quickly and effectively to urgent and unexpected logistics service requests.
	The company's staff resolves service problems, complaints, and emergency situations quickly and satisfactorily.
Tangibles	The company provides effective equipment and systems to protect goods and prevent damage during transportation.
	The company provides clear, accurate, and professionally prepared documents and service information materials.
	The company provides modern, well-maintained physical facilities and a comfortable operational environment.
	The company's staff and drivers maintain a neat, clean, and professional appearance.

III. RESULT AND DISCUSSION

3.1 AHP Results

The results show in table 3:

Table 3. AHP Result and Ranking

Dimension	Weight	Rank
Assurance	0,27	1
Reliability	0,24	2
Responsiveness	0,21	3
Tangible	0,11	4
Cost	0,09	5
Empathy	0,07	6

The AHP results show a clear pattern. Assurance, reliability, and responsiveness are ranked as the top three criteria, while cost appears further down the list.

This is interesting because it suggests that companies are no longer primarily driven by cost considerations. Instead, they seem more concerned about whether the service can be relied upon, especially in uncertain situations.

3.2 SERVQUAL Gap

The SERVQUAL results tell a slightly different. The largest gaps are found in responsiveness and reliability. In simple terms, these are the areas where expectations are high, but performance is still lacking. This is not entirely surprising, considering that these aspects are also among the most difficult to maintain consistently in a disrupted environment.

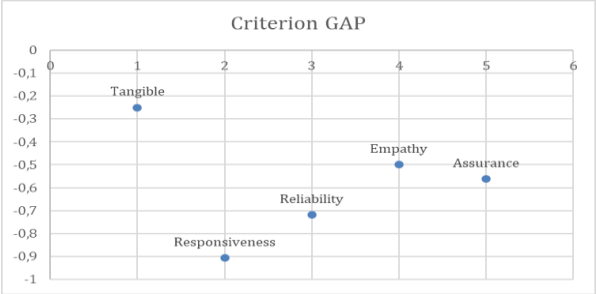
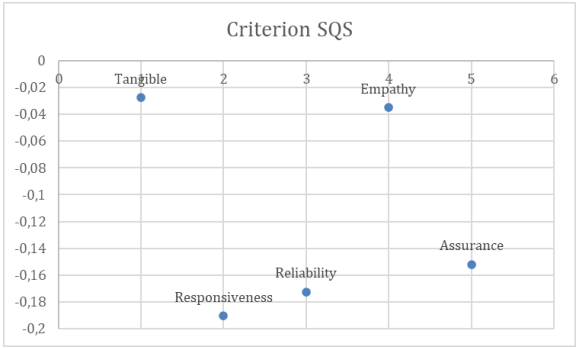


Fig 2. Criterion Gap from SERVQUAL

3.3 Integrated Analysis (SQS)

When both results are viewed together, a clearer picture emerges. The dimensions that customers consider most important are the same ones where performance falls short.

This points to a kind of imbalance. It is not that logistics providers are performing poorly overall, but rather that their efforts may not be focused on the areas that matter most to customers.



Picture 3. Criterion Gap from Integration AHP and SERVQUAL

3.4 Discussion

This study identifies a shift from cost-efficiency to risk-mitigation orientation, where companies prioritize reliability over cost (Ivanov, 2022).

The study proposes a framework based on TQM principles:

- Implementation of Service Level Agreements (SLA)

- Real-time tracking and monitoring systems
- Proactive communication strategies
- Standardization of operating procedures
- Structured complaint handling systems

LSPs must transition toward solution-oriented and customer-centric strategies.

IV. CONCLUSION

This study shows that procurement behavior in logistics has evolved in response to changing conditions. Service quality, particularly assurance, reliability, and responsiveness, has become more important than cost.

At the same time, there is still a noticeable gap between what customers expect and what they experience. This suggests that logistics providers need to adjust their approach, not only by improving performance but also by focusing on the aspects that customers value most.

This research is based on a single logistics service provider in Indonesia that focuses on the chemical industry. While this allows for a more detailed understanding of a specific context, it also means that the findings may not fully apply to other industries or regions.

Future studies could expand the scope by including multiple providers or comparing different sectors. It may also be useful to look at changes over time, particularly as supply chain conditions continue to evolve.

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