

ENGINEERING

Standardization of Logistics Processes in Expanding Organizations: Challenges in Integrating Multiple Units and Brands

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Published October 2026

Abstract

Business expansion across multiple units, brands, channels, and geographic markets increases the need for coordinated logistics processes. This narrative review examines the organizational, structural, and digital challenges associated with logistics standardization and discusses how integration mechanisms may influence operational efficiency. The reviewed literature identifies recurring barriers involving fragmented routines, limited process formalization, channel silos, coordination failures, and differences between local operating contexts. It also indicates that centralization, internal-external integration, shared information systems, common performance metrics, process optimization, and standardized technical parameters can support more consistent logistics execution. However, standardization should not be treated as complete uniformity: expanding organizations must balance common procedures with sufficient flexibility to accommodate market, channel, regulatory, and unit-specific requirements. Evidence further suggests that the benefits of integration depend on governance, digital maturity, information visibility, and alignment among internal functions and logistics partners. Overall, logistics standardization can provide an organizational basis for reducing duplication, improving traceability, and supporting cost efficiency during expansion, but its effects are contingent on implementation quality and organizational context.

Keywords: logistics integration; process standardization; business expansion; operational efficiency; multi-unit organizations; supply chain management

1 Introduction

Expansion through new units, brands, channels, or geographic markets can increase the complexity of logistics coordination. Processes that were manageable in a smaller organization may become fragmented as operations are distributed among locations, functions, and external service providers. The literature on retail expansion, supply-chain integration, and logistics systems therefore emphasizes the need to align strategy, structure, processes, and information flows when organizations grow [1–5].

Standardization is one response to this complexity. Common procedures, performance indicators, information structures, and technical parameters can create a shared operating basis across multiple units. At the same time, expansion often requires adaptation to local markets, different channels, regulatory conditions, and brand-specific requirements. The central managerial issue is consequently not whether every logistics activity should be identical, but how organizations can establish common processes without eliminating the flexibility required by heterogeneous operating environments [1,2].

This article analyzes the principal challenges involved in standardizing logistics processes in organizations with multiple brands, units, and operational structures. It also examines integration mechanisms reported in the literature and discusses their potential relationship with operational efficiency. The analysis is intentionally cautious: because the cited studies address different sectors, countries, and methodological settings, the evidence is used to identify recurring mechanisms and implications rather than to claim a universal quantitative effect of standardization on performance.

2 Background

Integrated logistics depends on coordination across organizational functions and, in many cases, across independent supply-chain actors. Earlier research linked logistics performance to the alignment of strategy, organizational structure, processes, and cross-functional integration [5]. More recent work extends this perspective to digitally enabled logistics networks, omni-channel retailing, collaborative supply chains, and Logistics 4.0, where information sharing and system interoperability become increasingly important [3,4,6,7].

In expanding organizations, logistics embeddedness is shaped by the ability to reproduce core capabilities while responding to local conditions. Research on retailers' geographical expansion indicates that logistics characteristics such as centralized distribution, standardized routines, and organizational learning can support growth, but the appropriate configuration depends on the expansion context [1,2]. This tension between replication and adaptation is especially relevant when multiple brands or channels operate under different demand patterns and service expectations.

Digital transformation adds another layer to the integration problem. Unified information systems and shared data can increase visibility and facilitate coordination, yet technology alone does not eliminate fragmented responsibilities or conflicting objectives. Studies of Logistics 4.0 and intralogistics emphasize that digital tools generate value when they are connected to redesigned processes, organizational capabilities, and appropriate governance [6,8].

3 Methodology

This study adopts an analytical narrative literature-review approach based exclusively on the references supplied with the source material. The selected publications address logistics integration, geographical expansion, standardization, omni-channel operations, network planning, digital transformation, process improvement, collaborative logistics systems, and organizational performance.

The review organizes the evidence into three analytical dimensions: (1) organizational barriers to logistics standardization; (2) structural and operational mechanisms used to integrate multiple units, channels, and partners; and (3) potential effects of standardization and integration on efficiency, cost control, traceability, and organizational scalability. Because the underlying studies differ in design and context, no meta-analytic effect size or causal estimate is attempted. Findings are interpreted as evidence of recurring relationships and implementation considerations rather than as proof that a single integration model is optimal for all organizations.

4 Results and discussion

The reviewed literature indicates that the first barrier to standardization is often organizational rather than purely technical. Routine logistics activities may remain insufficiently formalized when

immediate operational demands take priority, when employees lack training, or when managers perceive established practices as too simple to require documentation [9]. As organizations expand, such informal routines can become difficult to reproduce consistently across locations.

A second challenge arises from structural fragmentation. Physical and digital channels may evolve separately, creating organizational silos and inconsistent inventory, fulfillment, and transportation parameters. Research on omni-channel retailing shows that logistics integration capability is associated with stronger supply-chain integration and performance, reinforcing the importance of coordination across channels rather than isolated optimization [4].

Governance is a third recurring issue. Distributed units and external logistics providers may operate with different objectives, information standards, and decision rules. Network-logistics research highlights the role of virtual integration and collaborative structures, while broader Logistics 4.0 literature stresses interoperability and information exchange [3,6]. These findings suggest that process standardization requires clearly defined responsibilities, common metrics, and mechanisms for resolving coordination problems; a shared digital platform without governance may simply reproduce existing fragmentation in electronic form.

The literature also points to several mechanisms that can support integration. Centralized distribution can create scale and facilitate common quality metrics in some expansion strategies [1,2]. Internal alignment before external integration can reduce inconsistencies when organizations connect with third-party logistics providers [5]. Integrated network planning can improve coordination across strategic and operational decisions [7], while process-mapping and improvement methods can help identify redundant or non-value-adding activities [10].

Standardization can also operate through information and technical parameters. Shared information systems, transverse performance indicators, standardized labels, and common operating specifications may improve traceability and comparability across units [3,5,11]. In regulated or specialized supply chains, however, technical standards must remain compatible with local requirements. Thus, the objective is controlled consistency rather than rigid uniformity.

The potential efficiency effects reported across the literature include lower duplication, improved coordination, better information visibility, and more consistent operational control [1,4,5,10]. Studies on digital technologies in logistics further suggest that operational benefits depend on how technological affordances are incorporated into intralogistics processes [8]. Likewise, research on digital transformation and operational efficiency indicates that the relationship is dynamic and may vary across organizational and external conditions [12].

Claims regarding cost reduction require particular caution. Several sources associate integrated or standardized processes with efficiency gains, but the magnitude of savings cannot be generalized across organizations because implementation costs, network structure, demand variability, technology investments, and local constraints differ substantially. Standardization should therefore be evaluated through organization-specific indicators rather than assumed to produce automatic cost reductions.

Expansion and diversification may also be related to logistics service standardization. Recent research discusses how standardization management can support enterprise diversification [13], while studies of supply-chain integration strategies and service-supply-chain structures show that integration decisions depend on strategic position and competitive conditions [14,15]. These findings

reinforce that logistics integration is not a single operational intervention but a configuration of structural, technological, and governance choices.

Table 1. Main logistics integration mechanisms and their potential implications in expanding organizations.

Integration mechanism	Primary organizational focus	Potential implication
Operational centralization	Consolidation of distribution activities and common operating controls [1,2]	Greater process consistency and possible scale benefits where network conditions support centralization.
Internal-external integration	Cross-functional alignment before coordination with logistics partners [4,5]	Lower risk of transferring internal inconsistencies to external interfaces.
Shared platforms and metrics	Common information systems, data visibility, and performance indicators [3,5,6]	Improved traceability, comparability, and coordination across units.
Process optimization	Mapping and redesign of workflows to identify duplication and non-value-adding activities [10]	Potential reduction of bottlenecks and unnecessary process variation.
Standardized technical parameters	Common labels, specifications, and operational rules adapted to regulatory requirements [1,11]	More consistent execution while preserving necessary local compliance.
Digital integration	Use of digital technologies to connect processes and support information exchange [8,12]	Potential efficiency gains when technology is accompanied by process redesign and governance.

Source: Created by the author based on the reviewed literature.

Taken together, the evidence supports a staged interpretation of logistics standardization. Organizations first need visibility over existing routines and interfaces; they can then define which processes require common rules, which decisions should remain locally adaptable, and which information must be shared across the network. Only after these design choices are explicit can digital systems and performance metrics reliably reinforce integration.

This balance is particularly important in multi-brand organizations. Brand differentiation may justify distinct service levels, packaging rules, product-handling requirements, or customer-facing processes, while back-end activities such as data definitions, inventory governance, performance measurement, and selected distribution routines may still benefit from common standards. The literature reviewed here supports the principle of selective standardization, although it does not establish a single optimal degree of centralization for all expansion strategies.

The review has limitations. The source set includes studies from different sectors and geographical settings, and some publications address adjacent topics such as omni-channel integration, digital logistics, or cold-chain standardization rather than multi-brand expansion specifically. In addition, the supplied evidence does not provide a common quantitative measure of the effect of standardization on cost or productivity. Future empirical research could compare multi-unit organizations before and after specific standardization initiatives using consistent indicators of lead time, logistics cost, inventory accuracy, service level, and process variability.

5 Conclusion

Logistics standardization is a relevant organizational mechanism for companies expanding across multiple units, brands, channels, and markets. The literature reviewed indicates that the main difficulties arise from informal routines, fragmented channel structures, coordination failures, heterogeneous local requirements, and insufficient alignment between processes and digital systems.

Integration strategies such as selective centralization, cross-functional alignment, shared information platforms, common metrics, process optimization, and standardized technical parameters can create a more consistent operating architecture. Their benefits, however, are conditional rather than automatic. Effective standardization requires governance, implementation capability, information visibility, and an explicit distinction between activities that should be common across the organization and those that require local adaptation.

Accordingly, the strongest conclusion supported by the available evidence is that standardization can provide a foundation for operational efficiency and scalable coordination during business expansion, but it should be implemented as a context-sensitive integration strategy rather than as rigid uniformity. Further organization-level studies are needed to quantify its effects on costs, service levels, inventory performance, and productivity across different expansion models.

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