MARKETING-LOGISTICS INTEGRATION IN INDUSTRIAL ENTERPRISES

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Abstract

This paper examines marketing-logistics integration in industrial enterprises and proposes a practical model for aligning demand creation with supply fulfilment. The study synthesizes prior research and develops a Marketing-Logistics Integration Index (MLI) covering structural, technological, and relational integration. The framework links integration mechanisms (S&OP/IBP, shared KPIs, integrated CRM-ERP-WMS/TMS data) to operational outcomes such as OTIF, forecast accuracy, inventory days, and order-cycle time. A step-by-step implementation roadmap and measurement indicators are provided to support managerial decision-making and future empirical testing.

Keywords

marketing-logistics integration; S&OP; integrated business planning; OTIF; demand forecasting; inventory management; service level; digital logistics; KPI; industrial enterprise

Introduction. Industrial markets are increasingly shaped by fast demand shifts, shorter product life cycles, and higher customer expectations regarding delivery reliability and responsiveness. In this context, competitive advantage is not driven solely by production capacity but also by the ability to sense demand, translate it into feasible plans, and execute fulfilment with predictable quality. Marketing is responsible for demand creation and market positioning, while logistics (and the broader supply chain function) ensures availability, delivery, and customer service. When these functions operate in silos, firms face recurring mismatches: aggressive promotions without capacity visibility, excess inventory in slow-moving items, stockouts in high-volume SKUs, and deteriorating service performance.

Cross-functional integration has long been recognized as a core requirement of supply chain management, with marketing playing a critical role in linking customer requirements to operational capabilities. Classic SCM frameworks emphasize internal alignment across functions and processes as a prerequisite for performance improvements. Empirical work also highlights the value of marketing/logistics collaboration, especially through incentives, shared goals, and information flows that reduce coordination costs.

This paper aims to provide a structured, measurable approach to marketing-logistics integration tailored to industrial enterprises. Specifically, the paper (1) consolidates theoretical foundations and recent empirical insights, (2) proposes a Marketing-Logistics Integration Index (MLI) with practical indicators, (3) links integration mechanisms to core operational KPIs (OTIF, forecast accuracy, inventory days, order-cycle time), and (4) offers an implementation roadmap suitable for case studies and surveys in Uzbekistan and comparable contexts.

Literature review. The marketing-logistics interface is discussed in multiple research streams: marketing logistics, demand chain management, consumer-centric supply chain management, and cross-functional integration. Across these streams, a consistent conclusion is that demand-side decisions (segmentation, pricing, promotions, channel strategy) must be connected to supply-side execution (planning, sourcing, inventory, transport, order fulfilment) to achieve both customer value and cost efficiency.

Early foundational research examined the organizational context enabling marketing/logistics collaboration, emphasizing evaluation and reward systems, internal information sharing, and relationship quality. These insights remain relevant, but the integration challenge has intensified due to higher product variety, omnichannel expectations, and the rise of digital planning and execution tools.

More recent studies expand the integration concept beyond internal collaboration toward end-to-end alignment and customer-centricity. Consumer-centric SCM literature suggests that the customer is an active element in the supply chain dynamic, pushing firms to redesign service promises and fulfilment capabilities simultaneously.

In emerging markets, evidence indicates that integrating logistics with marketing activities can contribute to market-share performance, but the degree of integration depends on ecosystem maturity, capabilities, and contextual constraints. This is particularly important for industrial enterprises operating with uneven infrastructure, variable supplier performance, and rapid demand volatility.

Sales and Operations Planning (S&OP) and its evolution toward Integrated Business Planning (IBP) are widely viewed as core mechanisms for aligning revenue-oriented functions (sales/marketing) with cost- and capacity-oriented functions (operations/supply chain). Systematic reviews and case-based studies describe S&OP/IBP as a structured cycle for balancing demand and supply, resolving trade-offs, and improving plan discipline. Recent research also explores how global S&OP structures adapt to changing environments and how S&OP can be redesigned for dynamic and complex supply chains.

Digital transformation is a powerful enabler of integration. Data integration, automation, and digital technology adoption can strengthen supply chain performance, especially when embedded within a broader digital transformation strategy. At the enterprise level, integrated data flows across CRM (demand signal), ERP (planning), and execution systems such as WMS/TMS (warehouse and transport) reduce latency, improve visibility, and support faster decision-making.

In the Uzbekistan context, recent publications emphasize the importance of information technologies in digital logistics and the role of digital transformation in improving marketing strategy effectiveness. However, there remains a practical gap: many firms lack a simple measurement system and an implementation logic that explicitly connects integration mechanisms to operational KPIs and managerial decisions.

Methodology. The paper follows a conceptual-development design combining (i) targeted literature synthesis, (ii) process mapping of the end-to-end demand-to-fulfilment cycle, and (iii) construction of a measurable integration index. The methodology is designed to be directly usable in future empirical studies (survey, case study, or mixed methods).

We propose a Marketing-Logistics Integration Index (MLI) composed of three dimensions, each scored from 0 to 1 using observable indicators and then aggregated with weights that reflect enterprise priorities:

$MLI = wS \times S + wT \times T + wR \times R$, where $wS + wT + wR = 1$.

S (Structural integration) reflects governance and planning routines (e.g., S&OP/IBP cadence, cross-functional teams, joint promotion planning). T (Technological integration) captures information-system interoperability (e.g., CRM-ERP data consistency, SKU master governance, WMS/TMS tracking, a single source of truth). R (Relational integration) reflects behavioral factors (shared objectives, trust, disciplined execution, conflict-resolution routines).

To ensure reliability and validity in a future quantitative study, each dimension can be operationalized by 4–6 Likert-scale items (e.g., 1–5), tested through Cronbach's alpha and confirmatory factor analysis. Construct validity can be strengthened by triangulating survey responses with objective performance data (OTIF, forecast accuracy, DOH, order-cycle time).

Table 1. Example indicators for the MLI dimensions and linked performance KPIs

Dimension	Indicator (example)	Measurement	Linked KPI
S	S&OP/IBP cycle implemented and followed	Yes/No; maturity score	Forecast accuracy; OTIF
S	Joint promotion and demand-shaping plan approved with supply constraints	% campaigns reviewed	Stockouts; order-cycle time
T	CRM–ERP order and customer master data consistency	% matching records	Order-cycle time; service complaints
T	WMS/TMS real-time visibility and track-and-trace	Yes/No; coverage %	OTIF; transport cost per unit
R	Shared cross-functional KPI and incentive scheme	Yes/No; weight in bonus	OTIF; profitability
R	Regular exception-management and root-cause reviews	Meetings/month; closure rate	OTIF; DOH; returns

Results and discussion. The proposed framework positions marketing-logistics integration as a chain of cause-and-effect: integration mechanisms → decision quality → operational KPIs → customer value and financial outcomes. In practice, the strongest results

typically emerge when structural routines (S&OP/IBP) are reinforced by shared KPIs and supported by integrated data.

1) S&OP/IBP as the alignment core. Industrial enterprises should institutionalize a monthly S&OP cycle (weekly for high volatility) that consolidates: (a) demand plan (baseline forecast + promotions), (b) supply plan (capacity, materials, lead times), (c) inventory policy (safety stock, target DOH), and (d) financial reconciliation. The key managerial output is a single approved plan and a short list of trade-offs (service vs. cost, allocation priorities, and backlog rules).

2) Integrated digital data flows. Integration fails when each function operates on different numbers. A practical minimum is to align master data (SKU, customer, channel, region), ensure CRM-to-ERP conversion of demand signals, and deploy execution visibility (WMS/TMS) so promised service can be monitored. Digital transformation is most effective when treated as part of an enterprise transformation program rather than isolated IT projects.

3) Shared KPIs and incentives. When marketing is rewarded mainly for sales growth and logistics mainly for cost reduction, the enterprise can unintentionally create conflicting behaviors. A shared KPI set—especially OTIF and forecast accuracy—encourages balanced decisions. A recommended approach is to allocate a meaningful share of variable compensation (e.g., 20–30%) to shared service and planning KPIs.

Illustrative scenario. Assume an industrial firm improves OTIF from 82% to 90% after implementing (a) joint promotion review in S&OP, (b) data consistency checks between CRM and ERP, and (c) a transport visibility dashboard. Even without changing production assets, the firm can reduce expedite shipments, lower service complaints, and stabilize inventory. The MLI index supports diagnosing which integration lever (S, T, or R) is currently the binding constraint.

Implementation roadmap (12–16 weeks). Step 1: Map the end-to-end process and define ownership for demand planning and fulfilment. Step 2: Establish a basic S&OP calendar and decision rules. Step 3: Choose 4–6 shared KPIs (OTIF, forecast accuracy, DOH, order-cycle time, returns). Step 4: Fix master data and integrate key systems (CRM–ERP–WMS/TMS). Step 5: Run two S&OP cycles, measure KPIs, and conduct root-cause reviews. Step 6: Scale the approach to more SKUs and regions, refining incentives and governance.

Conclusion and recommendations:

Marketing-logistics integration is a practical capability that industrial enterprises can develop to achieve reliable service performance while controlling inventory and fulfilment costs. Building on established SCM theory and recent research on S&OP/IBP and digital transformation, this paper offers a measurable integration construct (MLI) and a KPI-linked implementation logic.

For managers, the main recommendations are: (1) institutionalize S&OP/IBP as the core alignment routine, (2) ensure a single source of truth by integrating CRM–ERP–WMS/TMS data flows, (3) introduce shared KPIs and incentive weights to prevent silo optimization, and (4) use the MLI index as a diagnostic tool to prioritize interventions.

For researchers, the MLI construct can be tested empirically using survey and performance data, with hypotheses linking higher integration to improved OTIF, forecast accuracy, and inventory efficiency. Future studies may focus on industrial clusters and regional contexts in Uzbekistan, examining how infrastructure maturity and digital readiness moderate integration outcomes.

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