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## **OUTBOUND LOGISTICS: THE FINAL FRONTIER OF CUSTOMER SATISFACTION**

*A. Kholod, student,  
Voronova Ye.M, Associate professor,  
Kharkiv National Automobile and Highway University*

Outbound logistics is where the supply chain meets the customer. It encompasses every process required to move finished goods from a company's warehouse or production facility to the end consumer—order processing, picking and packing, transportation, and final delivery. While inbound logistics focuses on bringing raw materials in, outbound logistics focuses on getting finished products out, and its execution directly shapes customer experience, brand perception, and revenue realization.

In an era of Amazon Prime expectations, same-day delivery, and real-time package tracking, outbound logistics has been elevated from a back-office cost center to a competitive battleground. A supply chain can manufacture flawlessly and manage inventory brilliantly, but if the outbound leg fails—if the order arrives late, damaged, or incomplete—the customer's verdict is unforgiving. Research by PwC found that 59% of consumers will abandon a brand after several bad experiences, and 17% will leave after just one (PwC, 2022). Outbound logistics is not merely about moving boxes; it is about keeping promises.

*The Components of Outbound Logistics* Outbound logistics is a chain of interdependent activities, each with its own performance requirements and failure points.

*Order Processing: The Starting Gun* The outbound journey begins when a customer places an order. Order processing encompasses order capture, validation, credit checks, and transmission to the warehouse management system. Speed and accuracy at this stage determine everything that follows. Manual order entry, still prevalent in B2B environments, introduces errors that propagate downstream—wrong

items picked, incorrect addresses labeled, invoices mismatched. Automated order processing systems integrated with enterprise resource planning platforms reduce error rates dramatically while accelerating processing times from hours to seconds.

Research on order management practices identifies order accuracy as the foundation of logistics service quality; errors at this stage multiply costs through returns, resh Shipments, and customer service interventions (Mentzer, Gomes and Krapfel, 1989).

*Warehousing: Picking, Packing, and Preparation* Once an order is received, the physical fulfillment process commences. Warehousing for outbound logistics is fundamentally different from storage-oriented warehousing. The emphasis is on velocity, accuracy, and efficiency in order picking—the most labor-intensive and error-prone activity in warehouse operations.

Picking strategies vary by volume and product characteristics. Piece picking serves low-volume orders where workers retrieve individual items. Batch picking groups multiple orders to minimize travel time. Zone picking assigns workers to specific warehouse zones, with orders moving between zones for consolidation. Wave picking synchronizes picking schedules with outbound shipping cutoffs.

Technology is transforming picking operations. Voice-directed picking, pick-to-light systems, and robotic-assisted picking reduce error rates and improve productivity. A study by de Vries, de Koster and Stam (2016) on warehouse technology adoption found that investments in picking technologies yield significant returns when aligned with order profiles, but that technology alone cannot compensate for poor warehouse layout or process design.

Packing is equally critical. It protects goods during transit, influences dimensional weight charges from carriers, and increasingly carries branding messages. The rise of the "unboxing" phenomenon in consumer markets has turned packaging into a marketing asset. In B2B, packing quality affects whether goods arrive intact and whether receiving teams can process shipments efficiently.

*Transportation: The Moving Link* Transportation is typically the largest cost component of outbound logistics and the most visible to the customer. Mode

selection—parcel, less-than-truckload, full truckload, air freight, intermodal—involves balancing speed, cost, and reliability. The final-mile segment, where goods travel from a local distribution point to the consumer's doorstep, has become the most challenging and expensive leg, accounting for up to 53% of total shipping costs in some e-commerce models (Joerss et al., 2016).

Carrier management, route optimization, and real-time visibility tools are essential transportation management capabilities. Transportation management systems (TMS) enable shippers to select optimal carriers, consolidate shipments, track performance, and manage freight audit and payment. The integration of TMS with warehouse systems ensures that outbound docks are sequenced efficiently and that carrier capacity aligns with order volume.

*Last-Mile Delivery: The Moment of Truth* The final mile is where outbound logistics succeeds or fails in the customer's eyes. Failed deliveries, where the recipient is not available to receive the package, impose substantial costs through redelivery attempts and erode customer satisfaction. Innovative solutions—locker networks, neighbor delivery, scheduled time windows, and real-time communication with recipients—are reshaping the last-mile landscape.

Gig-economy delivery models, where independent contractors use personal vehicles for parcel delivery, have expanded capacity dramatically but introduced challenges in quality control, worker classification, and service consistency. Research by Dablanc et al. (2017) on urban logistics highlights the tension between delivery speed imperatives, congestion mitigation, and labor practices—a tension that cities, consumers, and logistics providers are still navigating.

*Reverse Logistics: The Return Journey* Outbound logistics is not complete without a reverse logistics capability. Product returns are an inevitable reality of retail, and e-commerce return rates average between 15% and 30%, compared to 8% to 10% for brick-and-mortar retail (Statista, 2023). The reverse logistics process—return authorization, carrier pickup or drop-off, inspection, restocking, refurbishment, or disposal—must be as efficient as the forward flow. Companies that manage returns poorly incur hidden costs, lose resalable inventory value, and frustrate customers who

expect hassle-free returns.

A well-designed reverse logistics operation can recover value, reduce environmental impact, and enhance customer loyalty. Studies on consumer behavior confirm that a generous and convenient returns policy increases purchase likelihood, making returns management a marketing investment as much as an operational necessity (Janakiraman, Syrdal and Freling, 2016).

*Performance Measurement: What Gets Measured Gets Delivered* Outbound logistics performance is tracked through a set of standard metrics. On-time delivery rate measures the percentage of orders delivered by the promised date. Order accuracy rate captures orders delivered without errors in items or quantities. Order cycle time tracks the elapsed time from order placement to delivery. Cost per order shipped encompasses all outbound logistics costs divided by order volume. Perfect order rate is a composite metric requiring on-time, in-full, and damage-free delivery with accurate documentation.

Benchmarking these metrics against industry standards enables continuous improvement, but leading organizations go further—tying logistics performance directly to customer satisfaction and revenue outcomes. Research by Ellinger et al. (2012) demonstrated that logistics service quality positively influences customer satisfaction and, through that pathway, financial performance. The supply chain that measures only cost will optimize only cost; the supply chain that measures customer impact will optimize for growth.

*Technology Trends Shaping Outbound Logistics* Digitalization is reshaping every aspect of outbound logistics. Artificial intelligence enables dynamic routing that adapts to real-time traffic and weather conditions. Machine learning predicts delivery time windows with increasing precision. Autonomous delivery vehicles and drones are transitioning from pilot projects to operational deployment in controlled environments.

Real-time visibility platforms provide customers with granular tracking information, reducing status inquiry calls and building trust. The integration of delivery data with customer relationship management systems enables proactive communication when exceptions occur. Research on supply chain visibility confirms that transparency

improves both operational efficiency and customer perception (Barratt and Oke, 2007).

*Conclusion: Excellence at the Edge of the Supply Chain* Outbound logistics is the part of the supply chain the customer actually sees. All the upstream excellence—sourcing, manufacturing, quality control—is invisible and assumed. The outbound experience defines whether the customer returns or defects. Organizations that treat outbound logistics as an opportunity to differentiate rather than a cost to minimize will win loyalty in a marketplace where switching costs have never been lower.

The future of outbound logistics will be faster, more transparent, more sustainable, and more personalized. Companies that invest in the capabilities to deliver on these dimensions will not just satisfy customers; they will create experiences worth returning for.

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# SUPPLY CHAIN MANAGEMENT: THE BACKBONE OF MODERN BUSINESS

*O. Zolotova, student,  
T. Gerasymchuk, Ph.D, Associate professor,  
Kharkiv National Automobile and Highway University*

Supply chain management (SCM) has undergone a dramatic transformation over the past three decades. Once viewed as a narrow operational function concerned with procurement and logistics, SCM has emerged as a strategic discipline that determines competitive success or failure in the global marketplace. The COVID-19 pandemic, geopolitical disruptions, and accelerating technological change have thrust supply chains onto front pages and boardroom agendas, revealing what industry insiders have long understood: the supply chain is not merely a business function—it is the backbone upon which all other business functions depend.

A business can design a brilliant product, market it flawlessly, and price it competitively, yet if the supply chain fails to deliver, all that effort is wasted. Conversely, a superior supply chain can become a source of competitive advantage that rivals find difficult to replicate, enabling faster delivery, lower costs, greater resilience, and enhanced sustainability. As Martin Christopher, one of the field's foundational thinkers, famously observed: "Competition in the future will not be between organizations, but between supply chains" (Christopher, 2016). This article explores why SCM has become so strategically vital and how it functions as the connective tissue binding modern business together.

*Defining Supply Chain Management* The Council of Supply Chain Management Professionals defines SCM as "the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities," including "coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers" (CSCMP, 2023). In essence, SCM orchestrates the flow of goods, information, and finances from raw material extraction to final consumption, and increasingly, through returns and