

E-commerce Logistics: Navigating Challenges in a Rapidly Evolving Landscape

Whitepaper

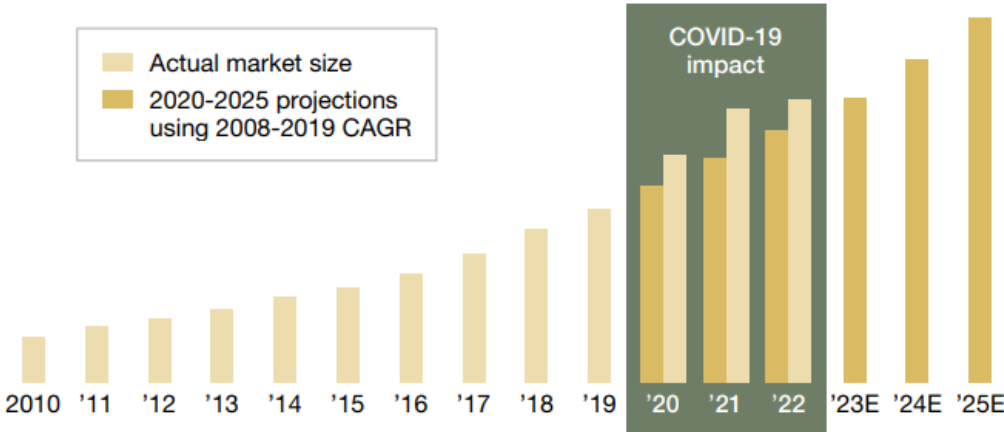
E-commerce logistics remains a dynamic and challenging sector, driven by shifting consumer behaviors, global supply chain disruptions, and the persistent evolution of technology. The landscape for 2024 mirrors many of the complexities of 2023, but heightened forecasting uncertainty, geopolitical instability, and ongoing conflict compound the challenges. These forces are reshaping service delivery, cost structures, and operational strategies across the industry.

The E-commerce Revolution: A Historical Perspective

In 1994, Jeff Bezos launched Amazon from his garage in Bellevue, Washington, naming the company after the world’s largest river to symbolize vast growth ambitions. Fast forward to today, and e-commerce has fundamentally transformed the global economy and supply chain operations. Companies like Walmart, Target, and Home Depot have adopted online-exclusive models for certain products, reflecting significant shifts in inventory management and logistics practices.

E-commerce acceleration slowed in 2021-2022 but is returning to its long-term trend

Global retail e-commerce market size (\$ billions)



Note: Growth is worldwide and includes all categories and all retail and CPG e-commerce distribution types (pure, specialty, and grocery players).

Source: Euromonitor

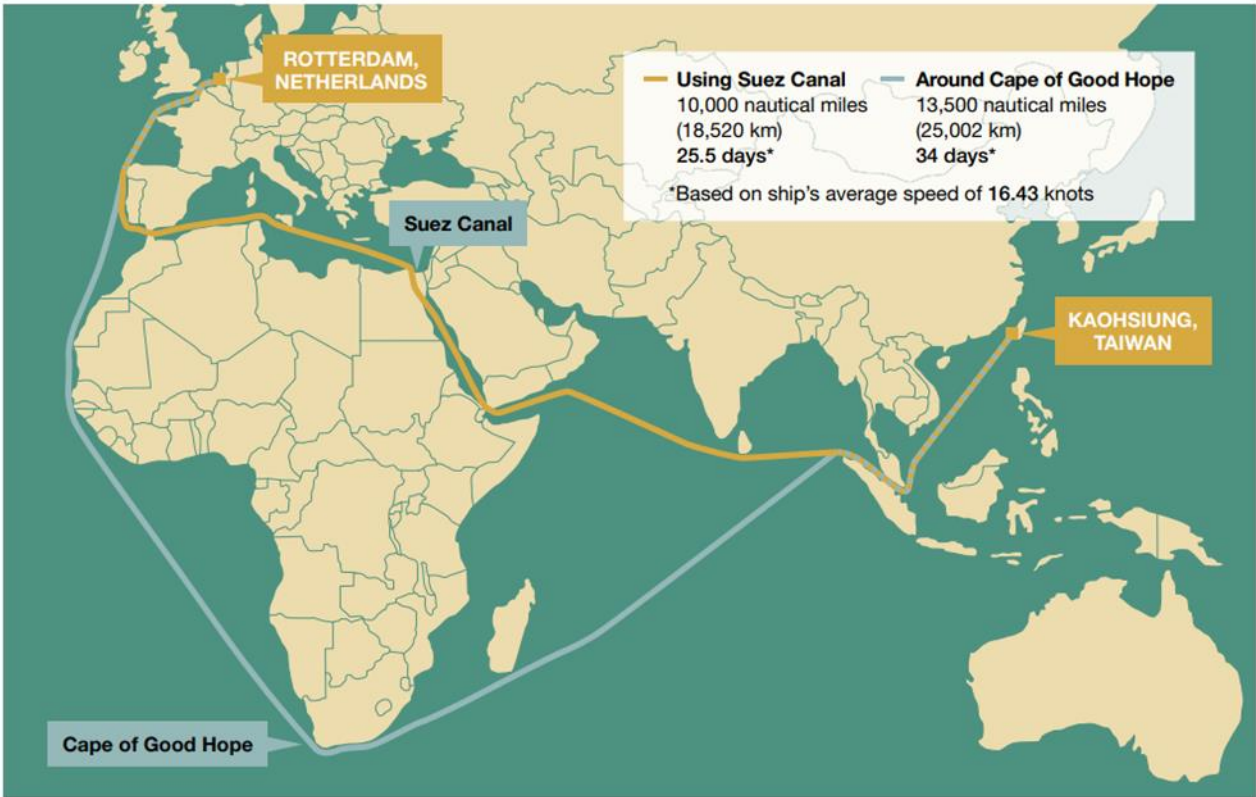
Freight Handling and Last-Mile Delivery: A New Paradigm

E-commerce's rise has led to a pronounced shift from traditional freight modes to parcel delivery, often utilizing the United States Postal Service (USPS) for last-mile delivery in low-density areas. This strategy not only optimizes costs but also alleviates inefficiencies for private carriers. Despite these changes, brick-and-mortar retail has adapted and even thrived, with new retail formats replacing traditional players like Sears and K-Mart.

Packaging and Warehouse Dynamics

Packaging plays a pivotal role in e-commerce logistics, with rising cardboard prices signaling potential economic improvements. Warehouse space, however, has seen a shift: pandemic-driven demand has waned, and vacancy rates have risen from 3.1% to 5.2% within a year. Businesses are leveraging pandemic-era supply chain strategies to navigate disruptions, such as those at the Suez and Panama Canals.

Alternative route for shipping while Suez Canal blocked



Source: BBC

Reverse Logistics: The Hidden Cost of Returns

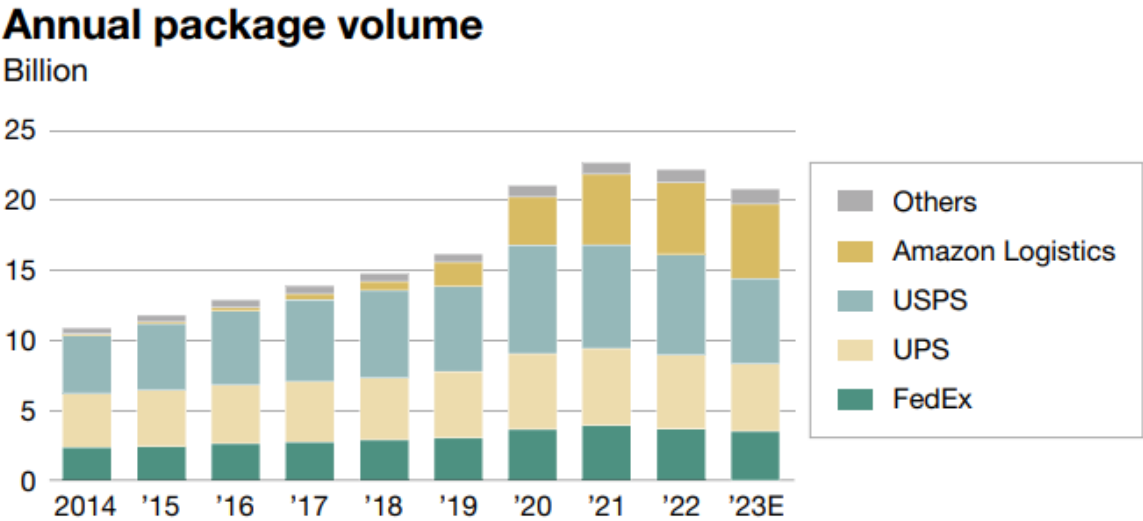
With the growth of e-commerce comes an increase in returns, a costly component of the supply chain. Americans returned 16.5% of goods purchased in 2023, valued at \$817 billion. Handling these returns incurs significant costs, with merchants losing approximately 50% of their margin on returned items. Enhanced reverse logistics processes are critical for mitigating these financial impacts.

Parcel Logistics: Trends and Innovations

The parcel delivery market, valued at \$466.87 billion in 2022, is projected to grow to \$648.84 billion by 2030. Key trends include:

- The expansion of private fleets, such as Amazon’s, for faster deliveries.
- Opportunities for small carriers and courier companies to compete in last-mile delivery.
- Integration of AI to optimize parcel management, reduce returns, and enhance consumer convenience.

Challenges remain, particularly in data integration and reporting for parcel shipments. Incorporating parcel logistics into transportation management systems (TMS) enhances rate analysis, visibility, and cost management, offering businesses robust tools to streamline operations and improve customer satisfaction.



Source: ShipMatrix

Sector-Specific Impacts

Trucking:

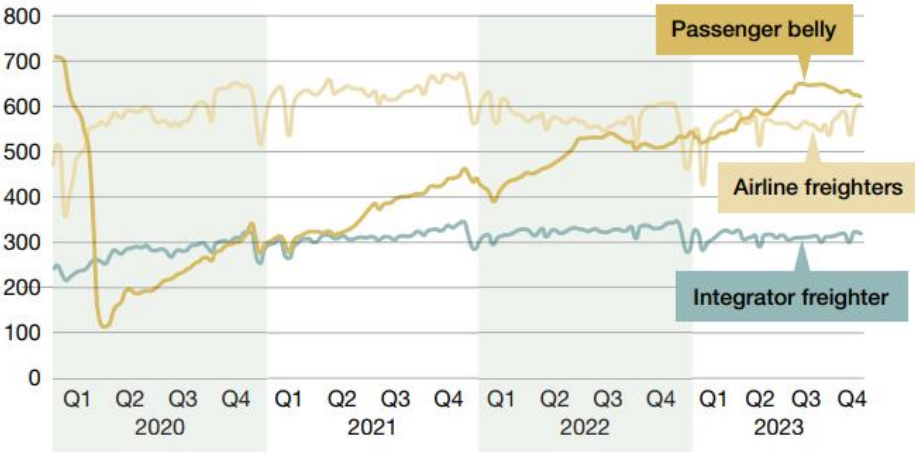
E-commerce has heightened demand for middle-mile and last-mile deliveries, with LTL carriers benefiting from frequent shipments to urban fulfillment centers. However, TL carriers face challenges as longer hauls to dense urban areas diminish.

Air Cargo:

While the pandemic boosted airfreight demand, volumes are stabilizing. Air cargo is expected to grow 3-4% in 2024, driven by B2C demand. Capacity expansions, especially in the Asia Pacific region, contribute to a buyer’s market. E-commerce’s expansion into larger items and time-sensitive goods further bolsters airfreight’s role.

International air cargo capacity

Thousand tons per week, January 2020-October 2023



vs. 2019

Passenger belly (widebody aircraft only)	40%	-12%
Airline freighters	39%	+12%
Integrator freighter	21%	+29%
TOTAL CAPACITY		+3.5%

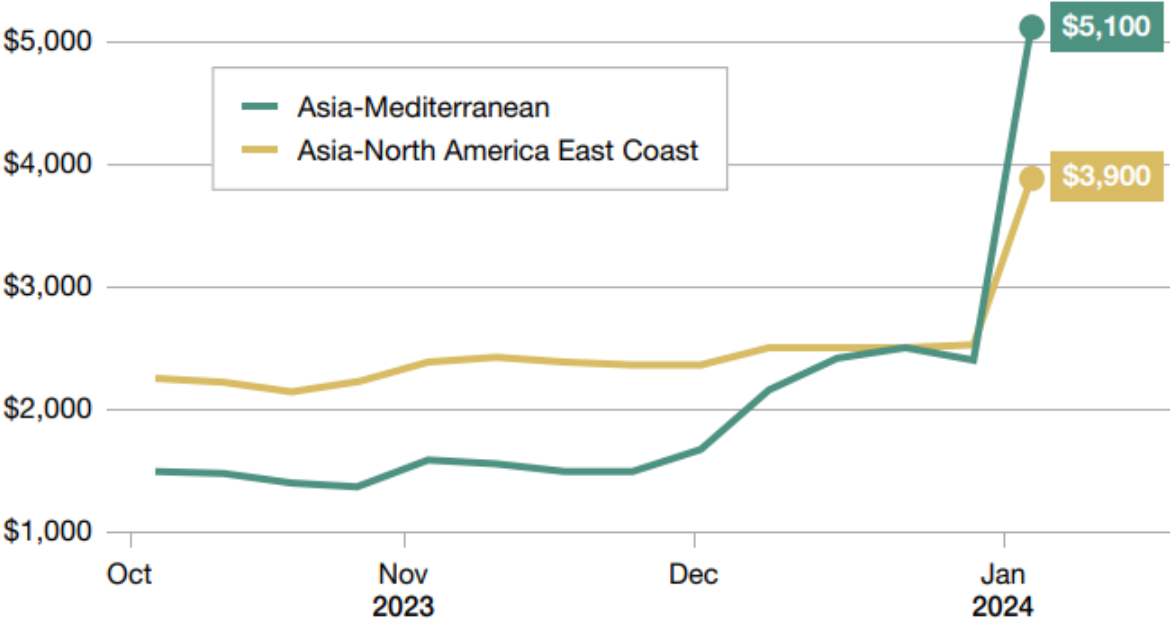
Source: Accenture

Ocean Freight:

Global disruptions, such as conflicts in the Red Sea and low water levels in the Panama Canal, have caused significant shifts in ocean shipping. Container rates have surged, with diversions around the Cape of Good Hope adding substantial transit times. These disruptions are pushing some e-commerce freight to air and land modes, exacerbating cost pressures.

Average shipping container rates for select routes

Per 40-foot container, weekly, October 6, 2023 to January 4, 2024



Note: Rates as of January 4 are daily, not weekly

Source: Freightos; Axios Visuals

The Road Ahead: Preparing for Continued Growth

E-commerce is forecast to capture 41% of global retail sales by 2027, up from 18% in 2017. Despite current challenges, the sector continues to innovate and adapt. Companies must:

- Invest in integrated TMS solutions to handle diverse freight types.
- Leverage AI to enhance operational efficiencies and consumer satisfaction.
- Strengthen reverse logistics capabilities to reduce cost burdens.
- Monitor geopolitical risks and diversify supply chain strategies.

The e-commerce logistics sector faces a precarious yet opportunistic future. By embracing technology, adapting to new consumer demands, and navigating global disruptions, businesses can position themselves for sustainable growth and resilience in a rapidly evolving market.



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