

Thought Leadership Brief Series

Accelerating Electronic Bill of Lading Adoption: Understanding What Holds Firms Back

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1. The \$40 Billion Opportunity

The shipping industry has long relied on paper bills of lading (BLs), creating delays, costs, and inefficiencies in global trade. Electronic bills of lading (eBLs) promise to revolutionize this process through instant transfers, reduced costs, and improved security. The Future International Trade (FIT) Alliance—comprising the Baltic and International Maritime Council (BIMCO), the Digital Container Shipping Association (DCSA), the International Federation of Freight Forwarders Associations (FIATA), the International Chamber of Commerce (ICC), and the Society for Worldwide Interbank Financial Telecommunication (SWIFT)—launched the Electronic Bill of Lading (eBL) Declaration to accelerate this digital transformation.

The potential economic and environmental impacts are staggering. According to McKinsey, achieving universal eBL adoption in container shipping alone could save the industry \$6.5 billion in documentation costs compared to physical bills of lading. Furthermore, it could unlock over \$7 billion in gains by reducing inventory and financing costs while enabling new business models. On a macro level, reducing trade friction could generate \$30 to \$40 billion in global trade growth, particularly benefiting emerging markets. Environmentally, the transition would save 28,000 trees annually and significantly reduce carbon emissions by eliminating paper.

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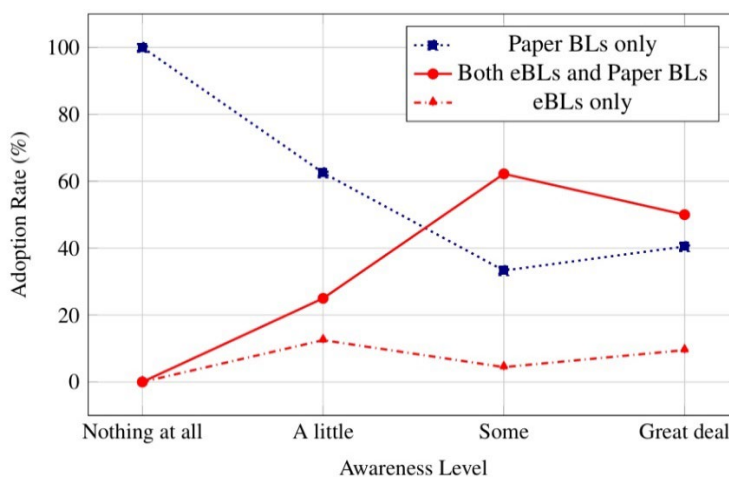


Despite these compelling benefits and strong industry commitments—such as 9 of the top 10 ocean carriers pledging to switch through DCSA’s “100% eBL by 2030” initiative, and 26 FIATA members already distributing the eFBL—adoption remains stubbornly low. According to 2024 survey conducted by FIT with partners HKUST Li & Fung Supply Chain Institute and Boston Consulting Group, the adoption rate was at only 50%. This raises a critical question: what is holding the industry back from capturing this enormous opportunity?

2. The Awareness Paradox

Using the survey data, new research from HKUST Li & Fung Supply Chain Institute reveals a counterintuitive finding regarding industry hesitation. The survey data shows that firms with the highest awareness of eBLs do not necessarily exhibit the highest adoption rates. Figure 1 illustrates this awareness paradox. As expected, firms with no awareness rely exclusively on paper BLs. However, among firms reporting a “great deal” of awareness, 40.48% continue to use paper BLs only, compared to just 33.3% of those with “some” awareness. Similarly, the combined eBL usage rate (both hybrid and eBL-only users) reaches approximately 67% for moderately aware firms but drops to around 60% for the most informed group. This awareness paradox suggests that simply raising awareness is insufficient. Different firms face fundamentally different barriers, requiring highly tailored solutions rather than broad educational campaigns.

Figure 1: eBL Adoption Percentage by Awareness Level



Note: The data originates from the 2024 eBL survey conducted by the FIT Alliance.

3. Two Types of Firms, Two Different Challenges

Through rigorous statistical analysis of survey data, researchers identified two distinct firm profiles with dramatically different adoption dynamics. The findings reveal not just that firms face different barriers, but that they respond fundamentally differently to the same interventions.

The first group consists of “Intrinsic-Resistance” firms, which are predominantly banks and financial institutions. These organizations face structural roadblocks that no amount of information can overcome. Their primary barriers are systemic rather than informational. Regulatory uncertainty is the top concern, cited by 17% of these firms as their primary barrier, as the lack of legal acceptance and harmonization across jurisdictions creates significant compliance risks. Additionally, 13% of these institutions struggle with ecosystem readiness issues, as their success depends on the simultaneous adoption of eBLs by the entire trade finance network. Finally, rigid trade partner requirements often force these institutions to maintain traditional processes, with 12% indicating that their counterparties still demand paper BL.

In stark contrast are the “Awareness-Driven” firms, primarily consisting of carriers and shippers. These firms are generally ready and willing to adopt but lack sufficient practical knowledge and supporting infrastructure. Their barriers are deeply operational. They frequently cite a lack of interoperability between platforms, with 13% expressing uncertainty about which digital platforms can work seamlessly together. Furthermore, another 13% suffer from insufficient implementation knowledge, limiting their ability to integrate eBLs into daily operations. This is compounded by the absence of suitable service providers, which an additional 13% identify as a primary hurdle, leaving them stalled in the planning phase.

4. The Data Speaks for Itself

The research moves beyond merely identifying these profiles—it quantifies their starkly different responses to awareness campaigns.

For financial institutions, the data reveal a striking reality: awareness has zero measurable impact on eBL adoption. Institutions barely familiar with eBLs and those acting as industry experts share identical adoption rates. Because awareness explains none of the variation in their behavior, training programs and webinars targeting banks are largely wasted resources. These institutions are waiting for regulatory clarity, industry-wide coordination, and seamless integration—systemic challenges that educational brochures simply cannot solve.

Carriers and shippers follow a different logic. In this group, awareness explains nearly 80% of the gap between adopters and non-adopters. Awareness ranges from “nothing at all” to “a great deal” on a four-point scale, while adoption intensity moves from paper-based to hybrid to eBL-only on a three-point scale. Each step up in awareness adds 0.68 points to adoption intensity. An increase of one step from “nothing at all” will motivate firms to launch pilot programs. An increase of three steps will move firms decisively from paper to digital. Consequently, a paper-reliant shipping line that invests in training to boost awareness will likely reach the threshold for active eBL use. In contrast, the same training given to bank staff produces no measurable effect.

5. Strategic Imperative: Optimizing Resource Allocation

The strategic implications of these data are definitive. To accelerate eBL adoption, the industry must abandon a one-size-fits-all approach and allocate resources where they actually drive results. For carriers and shippers, education directly drives execution. Every dollar invested in training, implementation workshops, and technical guides yields quantifiable returns, making targeted awareness campaigns the primary catalyst for their digital transformation. Conversely, for banks and financial institutions, information is not the bottleneck. Capital and effort targeting this sector must be aggressively redirected toward establishing

legal frameworks, developing platform interoperability, and driving systemic industry coordination.

The Bottom Line: A \$40 billion global trade opportunity—alongside \$6.5 billion in direct documentation savings—is within reach. Capturing this value requires a bifurcated strategy: aggressively educating operational stakeholders while systematically dismantling structural barriers for financial institutions. Only by aligning our resources with these realities can we bridge the gap between eBL's promise and practice, forging a more efficient, sustainable, and secure global trade ecosystem.

HKUST Li & Fung Supply Chain Institute

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