



UPU Think Tank Brief

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Growth in trade logistics and e-commerce through enhanced data management

I. Context and importance of the issue

Effective data management drives operational efficiency, transparency and economic growth in the global trade, logistics and postal sectors.

As the logistics landscape becomes increasingly complex – marked by rising e-commerce demands, international trade disruptions and evolving regulatory frameworks – Posts need to adapt by embedding advanced, global, data-driven practices across the entire supply chain.

In developing countries, where logistics costs can account for up to 25% of GDP (compared to 8% in developed economies)¹, leveraging data-driven insights becomes crucial for reducing inefficiencies and enhancing competitiveness.

However, these countries in particular face challenges in leveraging quality data for economic growth and competitiveness. Despite the demonstrated value of making large data sets public, gaps in their availability, quality and usability persist,² which hinder their ability to harness the full potential of data analytics to foster trade, SME growth and socio-economic development.

In addition to the absence of useable datasets, access to digital tools and connectivity is uneven. The International Telecommunication Union (ITU) reports that in 2024, only 35%³ of people in least developed countries (LDCs) had Internet access, compared to 93% in developed countries.

Without robust digital infrastructure, it is difficult

to collect, analyse and share data efficiently.

Both of these challenges impose limitations on the global logistics industry, which is undergoing rapid digital transformation driven by advancements in technologies like artificial intelligence (AI), blockchain, and the Internet of Things (IoT).

According to recent research, 80% of third-party logistic providers and 77% of shippers are actively investing in the use of predictive analytics to optimize supply chain operations⁴.

This policy brief highlights the context and importance of improved data management. It offers targeted recommendations for the UPU's data management strategy to facilitate the growth of trade and e-commerce.

II. Postal sector challenges in enabling global trade

The postal sector is changing rapidly owing to digital transformation and evolving global trade dynamics. Embracing the productivity and efficiency potential of digital technologies has become essential for Posts rather than simply “nice to have”.

Technology itself has also become more accessible, so Posts can use new digital capabilities, combined with generative AI and advanced analytics, to accelerate their operational and commercial transformations.⁵

Regarding digital infrastructure and cross-border data exchange, from the UPU's perspective, some of the key barriers faced by the postal sector in facilitating global trade are:

¹ Jean-Paul Rodrigue (2024), [The Geography of Transport Systems](#).

² World development report 2021: Data as a force for public good. P.59

³ ITU (2024). [Global Internet use continues to rise but disparities remain, especially in low-](#)

[income regions](#).

⁴ Acropolium (2025). [Why Use Predictive Analytics in Supply Chains? Advantages, Use Cases & Solutions](#).

⁵ McKinsey & Company (2024). [Preparing post for further parcel opportunities](#).

i *Fragmented data systems across the global postal network*

The postal supply chain is inherently complex, often involving multiple subcontractors, third-party logistics providers, and disparate systems that lack interoperability. This fragmentation results in inconsistent data quality, making it difficult to track shipments, predict delivery times, or optimize resource allocation, presenting a significant challenge to operational efficiency and service reliability.

Furthermore, poor integration with critical stakeholders, including wider postal sector players, further compounds the issue, leading to delays, increased costs and reduced customer satisfaction.

ii *Limited partnership between Customs and Posts*

In some countries, customs authorities often regard Posts merely as “letter mail” distributors rather than strategic partners to grow trade and e-commerce. Consequently, these two critical institutions tend to forge relationships that are less than robust or mutually beneficial.

For customs agencies, there is an increased focus on fostering ties with large logistics companies and established close-loop ecosystems. Strengthening the relationship between Customs and Posts could lead to more efficient data sharing, streamlined clearance procedures, and ultimately a more integrated and trusted cross-border trade system.

iii *Poor quality of data in emerging and transitional economies*

Developing nations often lag behind in collecting and utilizing reliable data⁶, including in the postal sector, which limits their ability to streamline trade processes, meet regulatory requirements and enhance trade competitiveness.

Furthermore, global trade increasingly relies on “trusted trade lanes”, which inherently require high-quality data to ensure transparency and regulatory compliance. However, businesses from emerging and transitional countries often struggle to meet the rigorous data and compliance

requirements of trusted trade lanes, thereby limiting their access to these preferential trade lanes and, by extension, to global markets.

iv *Digital and data dominance of larger logistics providers*

Large e-commerce platforms and logistics providers such as Amazon and Alibaba, have closed data ecosystems. Their logistics networks use advanced algorithms and real-time data to optimize delivery routes and inventory management. This data, however, is not accessible to Posts, which makes it difficult for them to compete and gain visibility in global supply chains.

Given these challenges, there is clearly scope for the UPU to assume a leadership role in fostering cross-sectoral collaboration, enhancing data management, assuring data quality, and ensuring robust regulatory compliance across the global postal network.

III. UPU: a trusted, global platform

The UPU connects 192 member countries, enabling standardized data collection and sharing protocols. This ensures interoperability and consistency across diverse systems. Its global reach and expertise enable it to bridge gaps between member countries, and to support developing nations in building capacity and aligning with international standards.

Additionally, the UPU's role as a neutral mediator and a global, secure platform for data interchange enables it to build trust among nations, encouraging collaboration without bias.

The UPU's leadership in data sharing directly supports economic growth and regulatory compliance for its members.

Reliable postal performance data helps identify inefficiencies, such as bottlenecks in rural deliveries. Logistics and supply chain data streamline operations, particularly benefiting landlocked countries by reducing freight and customs delays.

Financial inclusion metrics derived from postal banking data can expand mobile money services in underserved regions, while sustainability indicators promote eco-friendly practices such as reduced carbon footprints.

⁶ IMF, OECD, UN, WBG, WTO, Digital Trade for Development report, P38, 2023

Geospatial and demographic data further guides policy planning, optimizing postal routes and service points in rapidly urbanizing areas. By prioritizing equitable access to such data, the UPU drives progress and bridges the digital divide, ensuring that all member countries benefit from the power of shared insights.

By addressing these systemic issues, the UPU can strengthen the resilience and competitiveness of the global postal ecosystem, especially in terms of trade facilitation.

IV. Our recommendations

Given this context, the UPU has assessed the overall scenario and makes the follow six recommendations to its stakeholders:

1 *Adopt the UPU Multilateral Data Sharing Agreement*

The full membership of the UPU, or at least a majority of its members, should adopt the Multilateral Data Sharing Agreement (MDSA) provided for in the UPU Acts.⁷

This agreement provides a standardized, operational framework for seamless global data exchange between Posts, enhancing operational performance and reducing the complexity of international trade processes.

By fostering trust and transparency in the data-sharing process, the MDSA also helps to ensure that Posts remain competitive in the global e-commerce and logistics landscape.

2 *Implement the UPU's electronic advance data regulations*

It is paramount to expand the UPU's electronic advance data (EAD) regulations, which mandate that Posts submit electronic customs data before dispatch,⁸ extensively on a global scale. This will serve to enhance customs clearance efficiency, improve trade compliance, and strengthen security protocols.

Enabling timely and accurate electronic data exchanges means that customs authorities make faster, better-informed decisions, reducing delays in cross-border transactions.

Moreover, countries that embrace EAD are

better positioned to align with evolving global regulatory and security standards.

When implemented correctly, pre-notification of shipments by means of EAD can enable Customs to issue “green lights” even before shipments physically arrive, thereby creating a competitive advantage for Posts relative to closed-loop ecosystem networks.

3 *Embrace flexible data standards*

A flexible and adaptable approach to data standards is essential in improving the interoperability of systems between contractors, Posts and other stakeholders in the supply chain. Standards are necessary for effective postal operations and to interconnect the global postal network.

The UPU's Standards Board (SB) develops technical standards and EDI messaging specifications that facilitate the flow of data and international mail. The SB facilitates a neutral technical infrastructure within which postal services can operate with diverse business, commercial and legal arrangements.

However, given the rapid pace of technology evolution and the need to have up-to-date standards, the SB might not be agile enough in its current form to keep abreast of market developments.

Rigid data frameworks can hinder collaboration and potentially slow down innovation. By adopting standardized but adaptable protocols, Posts and their partners can facilitate smoother coordination and more efficient data sharing across different regions and systems. This approach will make it easier to onboard new technologies, such as blockchain and AI-driven analytics, into postal and logistics networks, supported by agile (API-driven) integration models.

4 *Strengthen collaboration through enhanced governance*

One of the key institutional challenges for the UPU is to develop a governance model that fosters trust, interconnectivity and increased collaboration among its members. This framework should support data-sharing efforts and provide a clear structure for decision making.

⁷ UNESCAP (2021). [UPU Multilateral Data Sharing Agreement \(MDSA\)](#).

⁸ UPU. [EAD Solutions](#).

These interconnectivity and interoperability frameworks can be explored and further developed by the UPU's Ready to Market Interoperability Group (RMIG)⁹ in order to design and facilitate the adoption of data-sharing governance model(s) and frameworks. Indeed, to support this process, the UPU Consultative Committee might also have a role to play in bringing together UPU members and private sector stakeholders.

In today's ecosystem-driven markets, robust collaboration among Posts is essential. Without increased cross-border cooperation, there is a risk that Posts worldwide may be relegated to roles as mere subcontractors for large e-commerce ecosystems – effectively becoming “last-mile” providers and forfeiting profit margins to large logistics providers.

5 Build a “coalition of the willing”

To accelerate the adoption of these strategies, the UPU should harness the power of a “coalition of the willing” – a group of countries and their designated operators that are committed to leading by example.

Collaboration among Posts is essential in providing seamless cross-border postal and parcel services. The more stakeholders such as Posts, Customs, transport networks, logistics providers and subcontractors participate in these collaborative efforts, the greater the likelihood that gaps in data sharing and management between traditional Posts and large e-commerce ecosystems can be bridged.

6 Ensure swift and decisive action

Timeliness is crucial, and implementing these key recommendations to address these challenges quickly will prevent the gap in data management and expertise from widening to the point where it can no longer be closed. Given the pace of change in the e-commerce market and customer behaviours, and the challenges facing the postal sector, moving forward with these recommendations is critical and urgent.

The industry must remain agile to respond to evolving regulatory requirements, rising customer expectations, and rapid technological

advancements.

We believe that implementing these strategies in a timely manner will address immediate challenges and position Posts and the UPU for long-term success and resilience in the face of future disruptions.

Appreciation

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⁹ More about the [UPU's RMIG](#).