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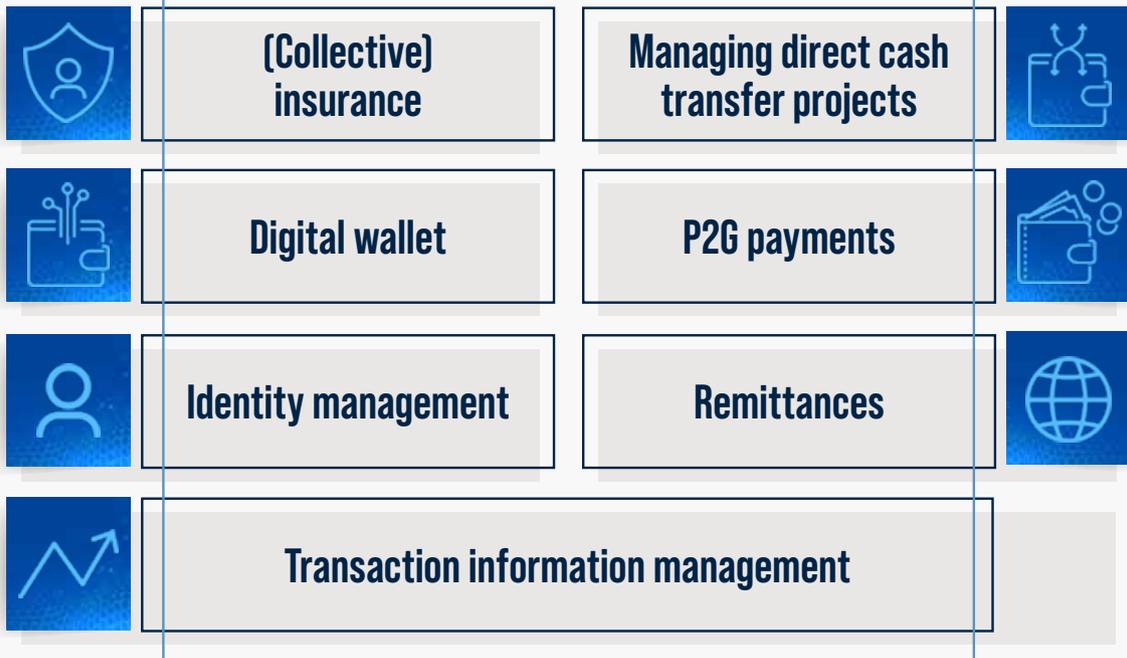
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Potential Use Cases for DLTs in Postal Logistics



Potential Use Cases for DLTs in Postal Financial Inclusion



EXECUTIVE SUMMARY

As part of the fourth industrial revolution, distributed ledger technologies (DLTs) have caused excitement owing to their ability to connect the biological, digital, and physical worlds through the decentralized storage of data. Transparency and efficiency are two words often associated with this technology and several organizations have investigated ways of harnessing the benefits of DLTs for customer- and human-centric solutions.

Recent developments and increased attention to cryptos and blockchain have drawn increased attention to DLTs. Although still young, the potential impact of this innovative technology has been recognized by many and has incited conversations about its use in different sectors, such as the public sector, finance, and logistics.

Many have been more wary on exploring the potential of DLTs, which has hindered its widespread adoption. This can be attributed to the increase in media attention and coverage of DLT solutions with special attention on the risks associated with its different use cases. One noteworthy example is that of cryptocurrencies, especially bitcoin, which has showcased the relative uncertainty that surrounds the use of DLTs in the financial environment.

The Post, as a worldwide network of postal offices, would benefit from utilizing a decentralized solution to promote low cost and competitive solutions in postal logistics. The Post, as a trusted entity, can leverage its network to bring about positive impact for the unbanked and underbanked populations that have not been included in the formal financial system through postal financial inclusion products.

According to research and primary postal stakeholder interviews, there is an increasing interest for Posts in exploring the use of DLTs. This is especially true in postal logistics for its ability to increase the levels of transparency of data shared between stakeholders and because of the layers of cybersecurity it adds to prevent fraud.

When it comes to the provision of postal financial services, DLTs can potentially accelerate financial inclusion for unbanked and underbanked populations by providing them with high quality, affordable services. This is especially true for cross-border and inter-organizational services.

This study investigates how Posts can make use of DLTs in two domain areas: postal logistics and postal financial inclusion.

Prior work done by various United Nations (UN) entities, Posts and private sector organizations was identified to consolidate a long list of use cases relevant for the Post. The study then identifies and examines how DLTs and blockchain can be used to bring benefit to these use cases in the two domain areas.

A recent study found that the savings potential associated with the use of blockchain and other DLTs in postal logistics is more than 30 percent in companies' middle- and back-office operations (Accenture Post and Parcel, 2018).

Based on research and primary insights, this study finds that the potential use cases for DLTs in postal logistics are:

Potential use cases of DLTs in postal logistics

Use case	Objective	Main value
 Certificates of origin	Have a common digital platform for the creation and validation of certificates of origin.	Reduce the time required to create certificates of origin and their authentication through a digital platform.
 Crypto stamps	Automate bilateral postal settlements and keep reliable track of data regarding shipments and mailing history of post.	Increase efficiency and decrease costs of bilateral postal settlements, ensure privacy of sender and recipient through cryptographic verification.
 Customs and handling	Accelerate customs and cross-border flows.	Single source of required documents necessary for international trading and transportation by coordinating with stakeholders.
 Digital post office box	Ensure reliability for digital documents and increase convenience in mail delivery and document verification.	Secure an individual's data protection, enable digital document verification service, prevent modification or misplace of official documents and ability to reach a wider population.
 Reverse logistics for returns	Decrease the time and effort spent on reverse logistics processes.	Easily find and access information for returned mail and packages for a simple and streamlined return process.
 Track and trace	Increase transparency among partners sending and receiving mail.	Stakeholders able to check the status of a parcel by using an auditable and transparent chain of custody.

Detailed analysis of each use case is explored in the study.

Similarly, for postal financial inclusion, the study finds that there are five broad benefits that the use of DLTs could bring:

Reduce settlement time and enable a trusted network;

Improve error handling and save time and costs associated with rework;

Support smart transactions;

Cost reduction from efficiency gains and lower transaction costs; and

Secure a decentralized and distributed transaction ledger database.

Considering these broad areas and based on research and primary insights, this study finds that the potential use cases for DLTs in postal financial inclusion are:

Potential use cases of DLTs in inclusive postal financial services

Use case	Objective	Main value
 (Collective) insurance	Lower the fees on insurance for a group of people living in the same area and trigger automatic payments.	Increase exposure to insurance for people who would not be able to apply or pay for one otherwise (e.g. small farmers for drought insurance).
 Digital wallet	Increase convenience in payments and monitor spending.	Individuals can easily check their funds, open savings accounts and track their spending.
 Identity management	Provide individuals with an accessible single digital identity acceptable to a broad range of service providers.	Reduced costs for identification processes, lower identity fraud and better user experience.
 Managing direct cash transfer projects	Monitor the proper spending of vouchers given to people participating in cash transfer programmes (both conditional and unconditional).	Quick and easy delivery of (e-)vouchers to recipients while validating their proper and single use in participating stores (unless unconditional in nature).
 P2G payments	Ease person-to-government (P2G) payments and/or proof thereof (such as in tax payments and fine settlements).	Enable residents to make payments or provide proof of payment to the government either through a digital wallet or by going to the nearest post office.
 Remittances	Lower fees and increase accessibility to remittances by leveraging the Post's network.	Instantaneous domestic and international remittances, even for smaller values.
 Transaction information management	Access near real-time information on customer transactions for the monitoring of cash availability.	Reduce operational risk, ensure better customer experience and prevent cash shortages at postal offices offering financial services.

Detailed analysis of each use case is explored in the study.

The study concludes with a set of recommendations focussing on how to enable the exploration, experimentation, and piloting of DLT-based solutions in Posts' respective countries.

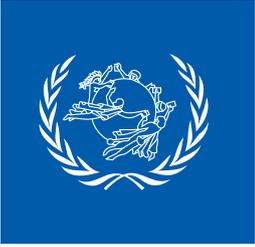
Posts are encouraged to form partnerships for the development and upkeep of DLT solutions with a special emphasis on adopting global standards and privacy by design. It is vital for Posts to have a clear business case that is both market responsive and financially sustainable to keep it relevant to its customer base and not depend on third parties in the long term for product-related and strategic decision making.

Regulators and policymakers are first and foremost encouraged to delve deeper into the topics of DLTs and digital financial services. They should promote collaboration and facilitate experimentation in contained environments for innovation in the financial sector. Regulators should encourage the use of open platforms and interconnectivity while also providing postal stakeholders with increased clarity on DLT-specific regulatory frameworks.

Ancillary to this main study, detailed case studies are being published with in-depth, qualitative deep dives and implementation recommendations for the following postal financial inclusion use cases: implementing a digital wallet, facilitating cost-effective remittances; facilitating identity management; and enabling and supporting direct cash transfer programmes.

In addition, three pilot "blockchain blueprints" are also being published that can enable Posts to implement postal financial inclusion solutions using DLTs.





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