Analysis of Ripple`s cross-border payments solution, its current usage and future improvements

1. Abstract

Nowadays, the efficiency and speed with which trading takes place on a global level can have a significant impact on companies, determining the level of losses or gains they will face. Thus, a cross-border payments solution as efficient as possible can represent for companies with international partners or clients a benefit and a transaction opportunity, which can bring an increase in its profitability.

Ripple, through the use of blockchain technology, offers a faster and more secure transaction service for their B2B customers compared to their own customers. This solution promises faster payments, an expansion and integration of companies in new international markets, the tracking of payments in real time, which increases the certainty and clarity in transactions and a flexibility in the transaction of payments without the need to limit a banking schedule or of pre-financing.

This paper presents the use of this method of solving cross-border payments, the analysis of the last period of its use, the cases of its use and the future improvements, which could be taken into account, using the current technology. Certain limitations of this solution and certain solutions for them will also be exposed. This research will be based on the Ripple company reports and the analyzes made following the successful use of this method by companies from dozens of countries.

2. Historical Overview

2.1. About Ripple

Ripple is a company in the crypto industry that offers financial solutions that promise speed, transparency and cost efficiency for its clients. By creating these solutions, Ripple's responsibility is to create a sustainable global economy by increasing access to inclusion and scalable financial systems. This company makes use of neural carbon technology and uses the green digital asset XRP, promising solutions using crypto technology to create a world without economic borders. Of course, it offers various solutions in the

economic field, but this paper will focus only on the solution, which promises to solve the problems related to cross-border payments.

2.2. Barriers in cross-border payments

One of the company's barriers when it comes to cross-border payments refers to blocked capital, known as trapped capital. When a company enters a new market, it usually has to pre-fund a destination bank account in order to be able to transact. This mainly affects small and medium-sized enterprises, which face liquidity supply problems. Also, the creation of these bank accounts is often required in the national currency, besides the fact that they come with various hidden costs.[1]

Another barrier refers to understanding the economy of the country with which one is trading, which means a constant attention to economic-financial forecasts, when moving liquidity between bank accounts between different markets. That is why most small and medium enterprises cannot afford to carry out these expertises and hire a team dedicated to each trading market in various countries.

Also, the increase in interest rates affects the volatility of currency exchange rates, and the related costs are key elements in cross-border payments.

Besides these, many other unpredictable situations can appear, which can slow down the growth of companies and their development in foreign markets.

2.3. Blockchain technology in cross-border payments

In meeting the barriers mentioned above, Ripple proposes solutions with the help of crypto technology for faster transactions and at lower costs. One of these is On-Demand Liquidity[2], which helps in the situation of trapped capital for small and medium-sized enterprises, being available 24/7, carrying out transactions in a few seconds, which lead to cost reduction, increased transparency and reduction of pre-financing obligations . By not blocking the capital, companies can use this working capital to enhance the growth and expansion of the business.

Also, if it is difficult to navigate through the various aisles of complex negotiations having to face the challenges related to global treasury management, Ripple offers access to new partners and financial institutions, so that companies have the ability to pay suppliers and global buyers in their local currency, which reduces the bottlenecks associated with collaborating

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[1] https://ripple.com/insights/freeing-trapped-capital-to-drive-business-growth/

[2] https://heinonline.org/HOL/LandingPage?handle=hein.journals/comlrtj25&div=9&id=&page=

with other businesses outside of domestic markets. This strengthens relationships with third parties, improves operational efficiency and consolidates a business in a new market.[3]
This technology brings significant improvements to B2B relations at the global level, which potentiates the need for intrusion on the world economic market.

3. Solution Design

3.1. How it works

In current days, there are billions of dollars transacted annually in cross-border payments, making them expensive, slow and error-prone. Thus, Ripple uses blockchain and digital asset technology to make this type of payments more efficient, making them faster and more transparent. So that, a company from a certain country wants to send money to another company from another country, they ask for an FX quote on price and currency exchange. That company receives that quote and approves it, and then sends the payment instructions. At this point, a digital asset has the role of connecting currency between the two countries, after which it is converted into the local currency of the country to which the amount of money is sent through a global partner network. After that, the recipient receives the amount in the local currency real time.[4]
If that company wants to change the global payout network corridor, Ripple offers access to other markets and currencies. The digital asset used is XRP, because it is fast, efficient, reliable and uses carbon neural technology.

3.2. Use cases

In the financial field, companies are considering using crypto for cross border payments with the help of CBDC, cryptocurrencies and stablecoins, according to Ripple's 2023 report.[5] At the same time, the use of blockchain technology leads to approximately 10B dollars in profits for international payments.

With the use and incorporation of blockchain technology for this type of payment, commercial banks have the opportunity to innovate new financial services for customers. On page 22 of the report provided by Ripple, it is exemplified how a commercial bank in the United States will issue tokens and carry out transactions through simulated reserves of the central bank, in order

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[3] https://ripple.com/insights/how-companies-can-modernize-treasury-management/
[4] https://ripple.com/solutions/cross-border-payments/
[5] https://ripple.com/reports/2023-New-Value-Report-Ripple.pdf

to experiment and innovate new services and methods of evolution of the banking system.

4. Idealistic Solution Design

4.1. Challenges and Limitations

Considering the potential that this technology has, the challenges it faces must also be pointed out. One of these refers to the ambiguous regulatory system. Currently, many countries are concerned with creating a work environment and incorporation for crypto, but currently the level of clarity is not very high.[6] However, most payments, especially cross border payments, are based on the traditional banking method, which can take several days until a transaction is completed. This method leads to payment delays, non-compliance with possible payment deadlines, higher risk of losses, possible penalties and more.

Moving funds internationally creates inconveniences in the area of global regulations and compliance requirements, currency exchange, time zone from various countries, limited working time and dependence on the work schedule of banking institutions, which lead to a cumbersome and expensive transaction process.

Thus, the biggest challenges when it comes to cross border payments refer to the costs related to payments, high interest rates, capital growth, respectively the requirements to be met for pre-financing, the speed of completing payments, lack of liquidity, lack of access to corridors or global payment networks, and payment errors.

4.2. Future directions

Using crypto-powered payments, international payments represent a key point in the methods of using blockchain technology, because it has the ability to facilitate and make possible the interoperability between tokens and chains.

Also, although the regulatory system is not yet well defined, a way to solve cross border payments in the most efficient way can be enhanced by the use of CBDC and stable coins. Because it is a digital form of the national currency, CBDC can be easily used in making this type of payments, given its technical capabilities, the blockchain technology behind it and easy accessibility just by using a phone or a digital wallet. The centralized system has not yet defined a final form of CBDC, not having the necessary infrastructure, but I believe that in the near future the direction of evolution will go there.

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[6] https://ripple.com/insights/blockchain-and-crypto-in-payments-transforming-the-way-money-moves/

5. Conclusions

Given the current state of development in blockchain technology, what Ripple has innovated is proving to be extremely useful, and the use of CBDC, which is not yet in use, can be tested and perfected first for domestic payments and later and for international payments, but with the right improvements they can be an incredible economic tool for cross border payments. Creating an economic system as integrated as possible with technology will lead to an evolution of the general infrastructure of the system. The use of blockchain technology can help with the time spent in middleware integration between payment flows, with the cumbersome payment structures, the lack of transparency, the difficulty of managing multiple assets, with fraud, the error rates of payments, the long time to complete payments, poor data security of accounts that require pre-funding and poor data quality.