The Impact of Blockchain Technology on International Trade Finance

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Abstract

This article looks at how blockchain technology is affecting international trade and the financial industry. The article's objective is to assess how blockchain technology is affecting global finance and trade. Finding out how blockchain technology can benefit the many areas of international trade as well as analyzing its effects on trade internationally were the main goals of the study. This essay aims to outline the possible benefits of using blockchain technology to the domain of global trade. Some foreign trade operations may undergo significant modifications due to the impact of blockchain technology, which is now regarded as one of the disruptive technologies. This article presents features related to blockchain technology, including its basic concepts and the domains in which it can be utilized. The development of intellectual property will be greatly impacted by technology, and this impact may be especially strong if the impact of pirated copying is lessened. Using blockchain technology in public procurement, which now makes up the majority of international trade, can help minimize fraud and corruption. We will talk about in this essay. Blockchain technology's effects on international trade finance.

Keywords: Blockchain, Technology, International Trade Finance, Intellectual Property, Global Economy, Cryptocurrencies, Accelerate Payments, Effective Transaction, Documentation Exchanges, Supply Chains, Bitcoin Transactions

Introduction:

Financial services and international trade are vital to the world economy. These operations entail the transnational movement of commodities, which is invariably accompanied by copious amounts of documentation, settlement, and protracted customs procedures, all of which impede the development of effective supply chains and adversely impact delivery timeframes.

Blockchain is the underlying technology of most cryptocurrencies and represents a new paradigm for digital interactions. [1]

An unchangeable, collaborative ledger that records transactions is called a blockchain. Blocks are used to organize the data, or transactional records. A block is linked to its predecessor by containing a unique identifier derived from the information in the predecessor block. Because of this, if the data is altered in one block, its unique identifier is also altered, and this may be observed in all subsequent blocks, hence indicating tampering. All users on the blockchain can determine whether data from a prior block has been changed with thanks to this domino effect. A blockchain network offers a robust way for collaborative record keeping because it is hard to disrupt or destroy.

Although blockchain technology was just recently linked to cryptocurrencies, it is currently being aggressively utilized outside of the financial industry. It enables the effective formation, storing, and disposal of data in a variety of ways, all while guaranteeing complete security of the associated activities. As of 2021, the World Trade Organization considers blockchain to be among the most efficient and quickly evolving international trade techniques. The technology is already being utilized to manage assets, speed up payments, and establish efficient transaction management systems, which is the basis of my prediction. Blockchain is not a magic bullet for developing economies, despite all of its advantages. In order to properly manage trade and business processes, implementing the technology in commercial and, more importantly,

government organizations is a lengthy and costly process that requires staff training. Additionally, the security issues are not entirely resolved because they may surface during the information recording process on the blockchain, which keeps the human element in information management. [2]

The primary effect of blockchain-based solutions on global trade would be to facilitate trade by offering a reliable and secure infrastructure for the exchange of documentation, guaranteeing stakeholder parity, and automating certain procedures to cut costs overall. International trading can be free of trust-related problems thanks to blockchain technology. Due to the tamper-proof nature of the system, companies with little to no awareness of one another can conduct business without fear of fraud or loss. Any modification requires authorization or agreement from both parties. [3]

International Trade Finance:

The complex web of linked systems that is global business. It has strict regulations and expensive costs. Continuous technological improvement is also necessary for international trade. This blog explores potential solutions to these problems using blockchain technology. The success of international trade is contingent upon transaction volumes and cost planning, both of which are influenced by internal and external factors. Decentralization and disintermediation, data transparency, immutability, trade consensus, dependability, and trust are some of the fundamental ideas of blockchain technology. The World Trade Organization and the European Commission have acknowledged blockchain as an additional solution to facilitate the management of foreign trade records. By creating a more complete vision for the use of technology and the digitalization of international trade payments, it holds the key to revolutionizing the global market.

Like any other supply chain activity, international trade typically involves cross-border capital transfers. This includes the transfer of information, goods and services, and funding. While managing these three flows is essential, it is not an easy task. The flow of information is essential. Information is one of the most vital elements in the modern supply chain since it helps businesses create more accurate forecasts and reduce supply chain volatility. The necessity for a business transaction mechanism that handles the transfer of financial assets as well as the sharing of knowledge is emphasized by this. Approximately 80% of international trade is financed by trade. By 2026, foreign trade is predicted to grow at a 4% annual rate and have a potential value of $24 trillion.Trade finance lowers credit risks while aiding in the gap between complicated interactions. Trade finance uses a variety of techniques to carry out commercial transactions, including document collection, account opening, countertrading (barter), and shipments. The Letter of Credit (LC) is the most important. [4]

Depending on a nation's comparative advantage, international trade can boost national income and improve international competitiveness by providing superior products at competitive prices, quicker implementation, and on-time delivery of goods. Improving transactions at the level of time and effort has become one of the necessary challenges to improve the State's economic standing. This guarantees the safety and quality of the products, and participants may quickly get their entitlements. This made it vital to search out fresh approaches to settling and streamlining business dealings. Because they are tied to one another, globalization has led to the innovation of new, cutting-edge procedures that facilitate economic transactions and other domains.

Blockchain Technology in International Trade: Safe and transparent cross-border transactions are made possible by decentralized ledger technology, or blockchain. It is utilized in supply chains, trade financing, customs clearance, and other areas of global trade. Blockchain has many uses in trade finance, including the issuance of letters of credit. The main advantages include automation, disintermediation, and reduced risk of fraud.

Trade finance is the practice of providing funding for certain business and international trade-related endeavors. Blockchain technology has the potential to completely upend this industry by offering a transparent, safe, and effective platform for the issuance and administration of financial instruments such trade invoices, bills of lading, and credit letters (Tretiak, 2022). Blockchain technology can be used to

automate trade finance agreements' execution with the use of smart contracts. This eliminates the need for the present manual, paper-based transaction procedures and saves money and time for all parties.

Blockchain technology has the potential to significantly impact supply chain management as well. Blockchain: An company will be able to track every transaction it processes using this new method. The products are far more traceable and accountable as they go through the supply chain thanks to the transparency and immutability they provide. This implies, for instance, that it would be challenging for a food or pharmaceutical corporation to confirm that a product was what it claimed to be and where it originated. Another significant advantage of blockchain integration is improved logistics, since this technology may lower the risk of fraud and errors and eliminate the middlemen required in most supply chain activities.

Customs Procedures: A set of procedures pertaining to the assessment and imposition of duties and tariffs on imported and exported commodities is known as customs regulation. Because blockchain technology makes trade transactions transparent, it can assist streamline customs operations because of the revealed and decentralized nature of data. [5]

Review of Literature:

Blockchain offers dependability and safety in addition to transaction immutability, speed, and anonymity (Zhu, 2016). But it does have a lot of disadvantages. To begin with, there isn't a central repository to monitor bitcoin transactions. In addition, nations that have acknowledged it as a part of their financial system continue to lack faith in it. Finally, research is needed to fully understand the support and integration of blockchain-centered technology, which is still in the planning and early stages of development and use for global trade. Blockchain has a lot of potential in international trade despite these drawbacks since it might help upend bureaucracy, significantly reduce the difficulty of tracking products by doing away with lengthy paper trails, and reduce losses from late payments. [6]

Experts from the World Trade Organization (WOT) claim that blockchain technology would revolutionize the growth of financial businesses and international trade (Sirimanne, 2021). Given how quickly technology is evolving, this is not surprising. It was developed for a cryptocurrency operation only a few years ago, but it now does more than just manage cryptocurrencies. In addition, covering all activity domains is the sole method by which its distribution directions may be formed. Since the main objective of the technology is to enhance commercial relationships and mutual settlements, it will inevitably extend to adjacent industries such as international trade and cryptocurrency. [7]

Therefore, there are numerous ways in which the blockchain technology has affected global trade. The digital ledger, for instance, does not need a reliable third party when two businesses are dealing. Even if they don't know each other well, traders can still transact at a low cost without worrying about loss or fraud. Additionally, blockchain technology is impervious to tampering, requiring that any changes be approved or consented to by both parties. The blockchain has important implications for trade automation as well. In global supply chains, human processes are reduced as most operations are digitalized. 2018's Loebbecke C. [8]

Benton et al. (2018) highlight the broad advantages that blockchain technology can offer about provenance. They explain how the use of blockchain-based records can change the hitherto unaffordable nature of establishing an easily available and consistently auditable trail of information. The writers also highlight the benefits over competitors that result from the efficiency that blockchains provide, namely data granularity. They point out that blockchain eliminates the need for audits in the supply chain management domain by streamlining internal, legal, and documentation procedures. [9]

Objectives:

- Role of the blockchain in international trade
- The blockchain technology’s impacts on global trade
- Blockchain’s benefit to international trade

Research Methodology:

The study will examine blockchain technology in international trade using a qualitative methodology. This effort will be based on the evaluation of secondary data through studies of recent publications. To comprehend the function of blockchain in cross-border businesses, dependable data from online journals and papers, government websites, international trade organization websites, and expert commentary on economics will be evaluated, among other sources. After reviewing the literature, there will be a discussion of the results. The study will culminate in suggestions for methods of endorsing the benefits of blockchain technology in global trade.

Result and Discussion:

Blockchain and international trade:– Blockchain growth:

By 2030, blockchain technology is expected to be the subject of investment choices worth over $3 billion, according to a reputable scientific study and market consulting organization, Gartner. (Page 107 of Ganne, 2018) The figure below shows the growth rate of blockchain investment based on projections from Gartner. [10]

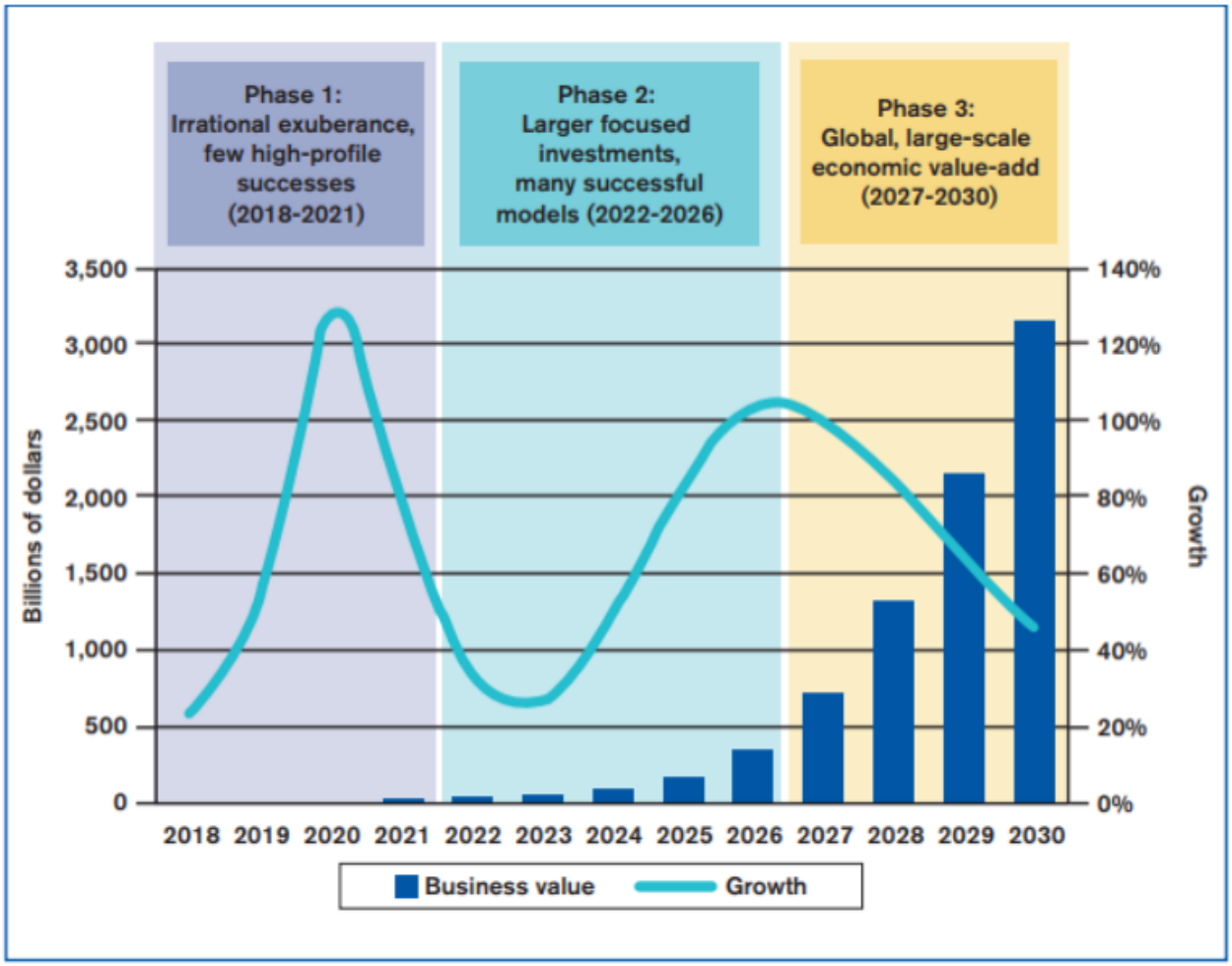

Figure 1: Blockchain business value forecast (Source: (Ganne, 2018, p. 107)) [11]

There are several potential advantages of blockchain technology for global trade. Because it makes it simpler to follow items along the supply chain, it may significantly reduce a number of trade expenses and open up new opportunities for Micro, Small, and Medium-Sized Enterprises, particularly small manufacturers from developing nations, to reach global markets. Ganne (2018), p. 106 Phase of "few high-profile successes, irrational exuberance*" Before the emergence of actual successful models, this stage necessitates several years to ensure the positive impact of blockchain technology, as well as evidence and

numerous experimental projects. It also occurs before evaluating the actual results of technology and its effects on various international business operations.(Page 107 of Ganne, 2018) As a result of our discussions, it is clear that the blockchain will be used more widely in a number of contexts. For example, international trade is facilitated by numerous crucial services and procedures that are currently proving to be time- and effort-consuming. This can be summed up as follows:

Facilitate trade finance: Cryptocurrencies that rely on blockchain technology, such as cryptocurrencies, can settle more quickly than traditional financial transactions, depending on the strength of the peer-to-peer network. For instance, an international funds transfer through a bank may take up to three days to settle, depending on current technologies like SWIFT, but some cryptocurrency platforms can finish transactions in a matter of minutes or seconds.

Supply chain management and logistics: Supply chain management and logistics operations involve a number of tasks, such as packaging and shipping goods from the factory or departure warehouse, moving them to the port or airport of departure, arranging for international transportation, facilitating export and import customs clearance, and performing unloading and shipping operations at the port of arrival.

Applications of blockchain technology for transaction transparency and traceability in commerce: Blockchain technology can be used to safely store and retrieve trademark certificates, proof of validity, and other identifying information in order to fight counterfeiting in international trade. These techniques are frequently employed to prevent fraud in markets for items like medications, artwork, and so forth. These traceability options call for labeling with a specific tag that has product information on it. This tag can then be scanned with a specialist application to confirm that it is legitimate. Authorities, end users, and other stakeholders may then examine the product to make sure it is authentic and not stolen. Blockchain technology would therefore aid in reducing fraud and duplication. [12]

Tools and strategies in blockchain for financial services

A number of prominent instruments and techniques have been noted in the wide field of blockchain technology for financial services and its framework.

Figure 2 shows the several techniques and instruments used in blockchain applications for financial services that have been proven effective over time. These tools and techniques are incredibly clever and useful for managing financial problems in real time using Blockchain principles. Parity, Geth, Solc, mtyhx, truffle, infura, MetaMask, and other soft tools are emphasized. These clever and cutting-edge instruments further guarantee that blockchain practices will boost financial services and related industries in the future.

For the past ten years, the financial services sector has conjectured about the potential of blockchain technology. Blockchain is nothing more than a financial transaction ledger. This ledger is published, distributed, and stored in multiple locations. Every time a transaction happens, a block is created and added to each ledger copy. This contributes to the correct recording of transactions. Blockchain enables simple, safe transactions and fosters trust between business partners. Deterministic smart contracts are tamper-proof programs that automate business logic, increase efficiency, and foster trust. It makes constructing and utilizing them easier. It offers industry-leading technology for granular data privacy at every level of the software stack, facilitating selective data sharing in business networks. [13]

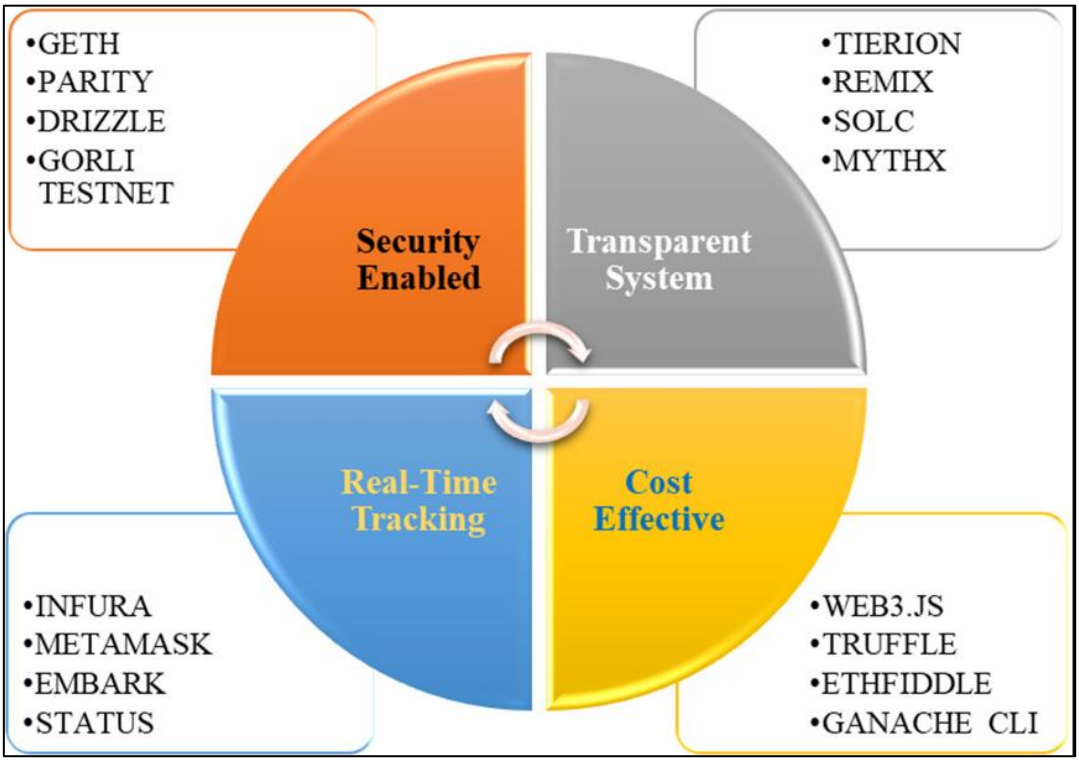

Figure 2: Several tools and methods in blockchain for financial domain.

Application of technology in international trade:

The transactional mechanism:

Foreign trade transactions are typically business-to-business (B2B) exchanges of high value between manufacturing, trading, and service organizations. They therefore have a variety of characteristics pertaining to the players, the transactional mechanism, and the legal framework. The contracting parties, the product (transaction topic), and the payment (service counter value) are all engaged in an export-import operation. Simultaneously, a number of other businesses participate in the operation by offering the carrier, the insurer, the payment of the price, and the items' insurance.The public authorities of the partner countries—such as chambers of commerce, customs authorities, ministries or departments with attributions in the area of foreign trade activity—play a crucial role in the transaction's execution.

Logistics

Logistical operations in the context of international trade include packing and loading goods into a truck, wagon, or container at the factory or warehouse of departure; pre-transporting goods (moving goods to the embarkation port, airport, or grouping platform); export and import customs clearance procedures; main transport; international traffic insurance; and post-transporting and unloading goods from the means of transport (Popa, Belu, 2018). Either the exporter or the importer is in charge of logistics operations, based on the Incoterms provision that was agreed upon by the parties in the contract or, in the absence of one, how they have determined their respective obligations and the relevant laws. Nonetheless, any breakdown in the logistics system results in extra expenses and a negative reputation for the exporter's business (Popa, 2008). Logistics and logistics expenses will become more crucial for modernization and competitiveness in an increasingly globalized economy, as well as for environmental preservation.

Payment and finance

a. Payment in international trade

In international trade, the letter of credit is the most often utilized payment mechanism, with open account payments coming in second. For instance, in the EU, letters of credit are rarely used for intracommunity trade (Ganne, 2018). This is because managing payments through this method takes time, and frequently,

goods arrive at their destination while the documents are still being verified by bank employees. Delivering the goods and counting on the transaction partner (the importer) to fulfill the payment obligation puts the exporter at considerable risk when it comes to open account payments. [14]

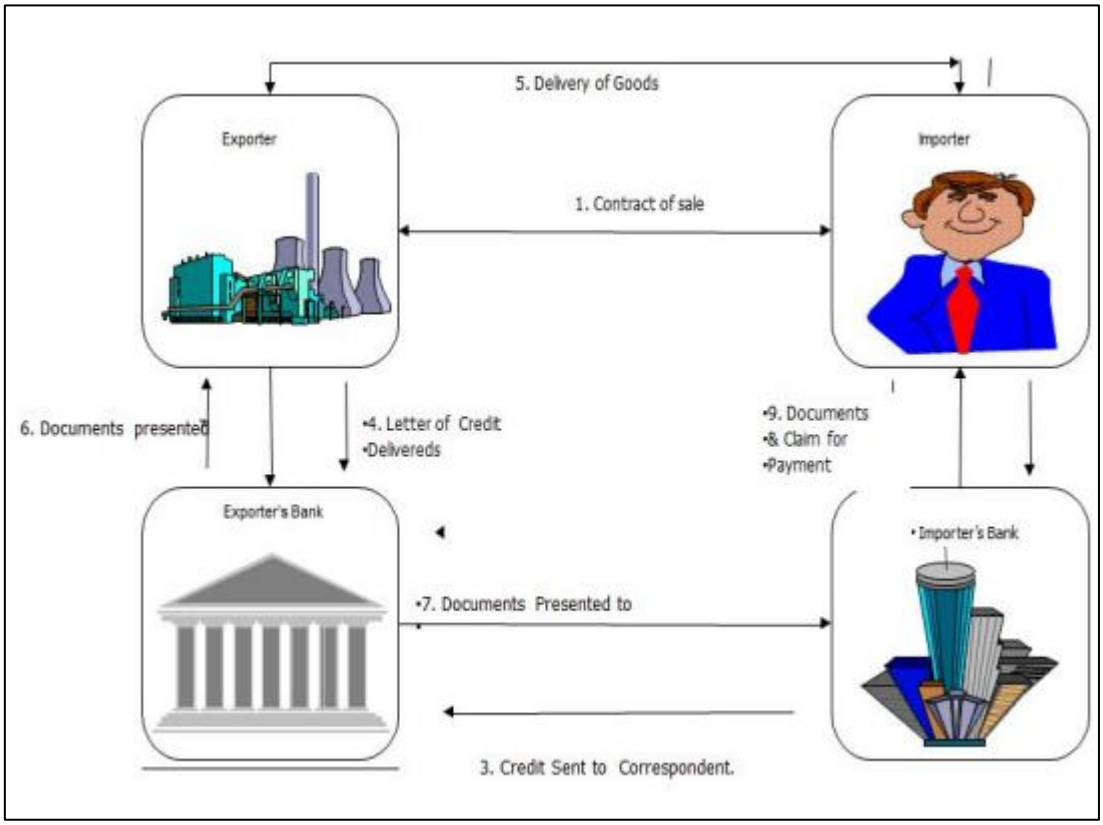

Figure 3. Letter of credit (LC) vs. blockchain-based LC transaction [15]

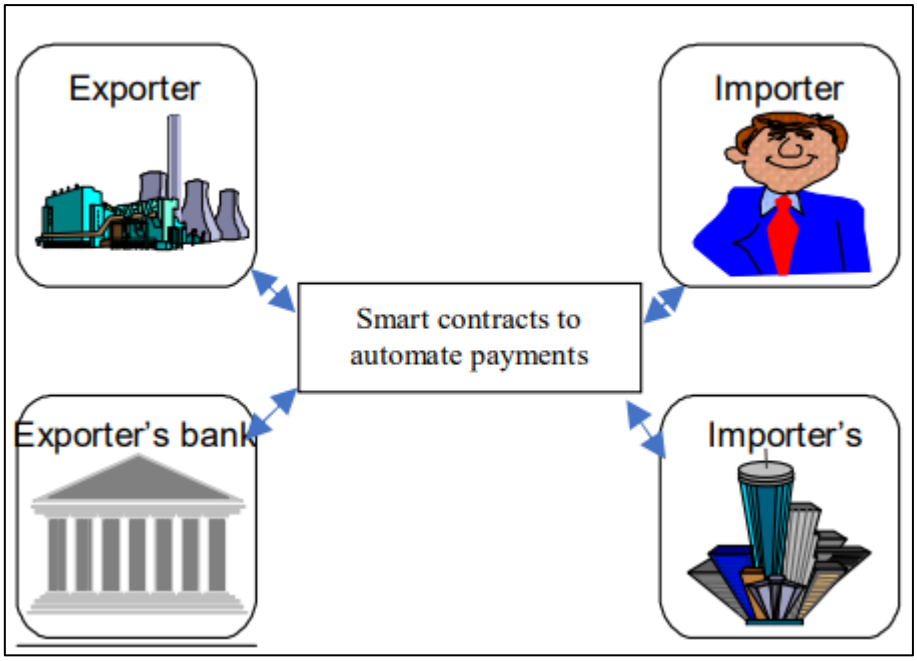

Figure 4: Smart contract to automate payments (Source: by Google)

Conclusion:

A new economic era and a game-changing invention are two terms often used to describe blockchain technology. This platform for cross-border digital transactions has a great deal of potential to help with global trade flows. Strong praise is given to the underlying smart technology for streamlining international

trade procedures. The blockchain is a permanent technology. Businesses that operate internationally need to figure out how to use technology to improve their operations. Blockchain reduces or eliminates paperwork, which boosts productivity. Moreover, there are no fees or delays related to using third-party players. The trust that the digital ledger fosters allows organizations from different geographic regions to connect with one another with ease. Blockchain technology is essential for every firm that wants to succeed because of its many benefits in fostering global trade.

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