

Blockchain technology and international trade: key features and impacts**LYNDA REZGUI**20 August 1955 University of Skikda (Algeria), Email Adresse, l.rezgui@univ-skikda.dz
lynda_hr@hotmail.fr**Received:**10/18 /2021 ;**Accepted:**/04/17 /2022;**Published:**06/30/2022**Abstract:**

This study aims at defining the concept of Blockchain technology, its emergence and to what extent it is linked to digital currencies, especially Bitcoin, in addition to its applications in various fields such as: education, health, and insurance.. Accordingly, we focused mainly on the importance of using blockchain technology in the field of international trade and its effects on several aspects of the supply chain, financing... etc, we concluded that the use of Blockchain technology in the field of international trade can effectively facilitate and reduce many processes and would help to track goods from production to final consumption. This creates a sense of satisfaction for all participants. However, the generalization of the application of Blockchain technology is not easy in the fact that it still faces many securities, economic and political challenges -which are interconnected- for the country or the company that adopts this technology.

Keywords: cryptocurrencies, blockchain, international trade, finance, supply chain management**Jel Codes:**G130, F1, G,**الملخص:**

تهدف هذه الدراسة إلى التعرف على تقنية بلوكتشين ظهورها ومدى ارتباطها بالعملات الرقمية بالأخص البتكوين، تطبيقاتها واستخداماتها في مختلف المجالات من تعليم، صحة، تأمين.. وما ركزنا عليه هو أهمية استخدامها في مجال التجارة الدولية وتأثيراتها على عدة جوانب من سلسلة التوريد، التمويل... وخلصت الدراسة إلى أن استخدام تقنية بلوكتشين في مجال التجارة الدولية سوف يسهل ويختصر العديد من العمليات وتساعد على تتبع السلع منذ بدء إنتاجها حتى وصولها إلى المستهلك النهائي مما يخلق ارتباطاً لدى مختلف المتعاملين، إلا أن تعميم تطبيق تقنية بلوكتشين ليس بالأمر السهل إذ تواجهها العديد من التحديات الأمنية، اقتصادية، سياسية -وهي تحديات مرتبطة ببعضها البعض- بالنسبة للبلد أو الشركة التي تتبنى هذه التقنية.

الكلمات المفتاحية: العملات المشفرة - سلسلة الكتل - التجارة الدولية - التمويل - سلسلة التوريد

تصنيف jel: F1, G, G130

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1.Introduction:

International trade plays a significant role in improving international competitiveness and increasing national income depending on the country's comparative advantage by offering better quality of products, competitive prices, speedier implementation, and products arrival at specific time and place. This ensures products safety and quality, and participants can easily receive their entitlements where improving transactions at the level of time and effort has become one of required challenges to raise the State's economic status.

From this standpoint, it became necessary to look for new ways to settle and facilitate commercial transactions. Globalization had led to innovating new advanced techniques that facilitate economic transactions and other areas since they are related to each other. Accordingly, Among the new updates concerning the settlement of transactions is Blockchain technology that emerged with the adoption of cryptocurrencies. Hence, how can this technology streamline and facilitate various procedures related to the international trade in terms of safety, time, cost, and effort? We discuss it via answering the following research question:

How can Blockchain technology improve and facilitate the performance of various players in international trade? Can be divided this problem into the following questions:

- What is Blockchain technology?
- What is the role of blockchain technology in international trade?
- How did Blockchain Technology Improve the Performance of Arab Jordan Investment Bank, Walmart and Skandinaviska Enskilda Banken corporates

We address this issue by means of the following:

- 2. What is the blockchain technology.**
- 3. Applications of blockchain technology.**
- 4. Blockchain and international trade.**
- 5. Companies Using Blockchain Technology.**

2. What is the blockchain technology (underlying principal):

Let us begin with the most essential factors that contributed to the birth of blockchain technology before learning about the technology itself.

2.1. Blockchain and the Cryptocurrencies :

The concept of blockchain first appeared after the 2008 global financial crisis. An article was published by Satoshi Nakamoto entitled "Bitcoin: A peer-to-peer electronic cash system"*. The article proposed an innovative peer-to-peer payment method for transferring digital currency between participants without the intervention of financial organisations or governments.(European parliament, May 2020, p. 02).

Cryptocurrencies may be defined as follows:

Cryptocurrencies: «a subset of virtual currencies, use an innovative method to process virtual transaction, called **blockchain** or, more generally **distributed ledger technology**. When one cryptocurrency user decides to send money to another, this transfer request is sent through a decentralised database shared among a network of computers who must all approve the transaction before it can be recorded. Once approved, the transaction -block- is added to an existing -chain-, creating a -digital ledger- that holds information securely and transparently for everyone on the network to see»(ESCAP, united nations, p. 01).The mechanism of the Blockchain as well as the technology for working with it, are built on the same principle.

2.2 .Blockchain / distributed ledger technology (DLT)

The blockchain technology that underpins cryptocurrencies like Bitcoin and Ethereum has become well-known .It is a distributed ledger in the form of a database that allows transactions to be recorded and tracked. Blockchain technology creates reliable records with transparency of transactions, allowing any party to the transaction to pre-verify the information entered in the ledger before final approval. Either any party can't change what has been entered(Birgit & baker, 2018).

«Blockchain is a distributed record-keeping system (each user can keep a copy of the records) that uses encryption to provide for auditable transactions. Using blockchain, each transaction is traceable to a user, each set of transactions is verifiable, and the data in the blockchain cannot be edited without user's knowledge. These blockchain features allow two or more parties without a trusted relationship to engage in reliable transactions without relying on intermediaries or central authority»(Rachel F, june 15 2019, p. 01)

Satoshi also wrote about the main reason for adopting this technology in his paper:

« The system still suffers from the inherent weaknesses of the trust based model. Since financial institutions cannot avoid mediating disputes. The cost of mediation increases transaction costs, limiting the minimum practical transaction size and cutting off the possibility for small casual transactions,...What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted. »(Satoshi, p. 01)

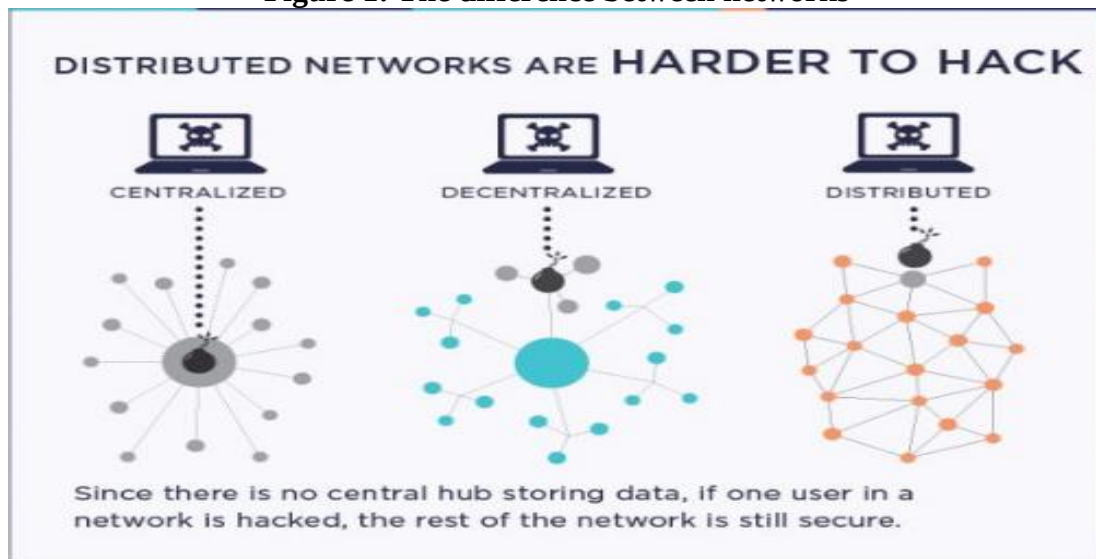
This technology could lead to saving time and money when it comes to tracking business transactions, it has the ability to streamline business processes, this allow companies to compete more efficiently.(Rachel F, june 15 2019, p. 01).

* Satoshi Nakamoto, Bitcoin : A Per-To-Peer Electronic Cash System, You can read about this paper at website at “ <https://bitcoin.org/bitcoin.pdf> ”

2.2. The blockchain fundamental principles are as follows:(Belu, 2019, p. 03)

a) **Distribution (decentralization and disintermediation):** This means, there is no central authority controls the blockchain technology (eg a bank or government), or has the power to modify or remove what has been accepted on the network.

Figure 1: The difference between networks



(Bowman, 2018)

- b) **Immutability:** No party, regardless of its status, can delete or change the data on the system.
- c) **Trust and transparency:** All parties can see and verify what is entered on the network transparently
- d) **Consensus:** the transactions are accepted or refused is the result of consensus at the blockchain level and it is not a decision made by a central authority.

3. Applications of blockchain technology :

Because of its many applications, blockchain technology It is no longer limited to cryptocurrencies, as it once was, and has expanded into fields such as education, health, and commerce...The following are some examples of blockchain applications (Launched and others are under trial).

3.1. Possible applications in the world of IP (intellectual property):

Blockchain technology provides great advantages in terms of protecting intellectual property, whether when registering or using it as evidence of the first and real use of the trademark, and it is possible to monitor and track registered and unregistered intellectual property. In addition to granting usage authorizations faster, accurate and secure manner and facilitating the discovery or recovery of counterfeit and stolen goods. (Birgit & baker, 2018)

3.2. Banking:

As we mentioned earlier, this is through the absence of the need for many services provided by banks or the mediation of financial institutions to complete some transactions. Blockchain technology facilitates and speeds up payments and takes advantage of lower costs, which makes working with it safer in lending and borrowing operations. It can also reduce operational costs if it is introduced into the Clearance and Settlement Systems. As for trade, Blockchain technology has the potential to increase global commerce transparency, security, and trust. Furthermore, by eliminating the tedious, paper-heavy bills of lading procedure in the trade finance business, blockchain technology gives the ability to store information about the customer, which avoids fraud

and allows the sharing of information between financial institutions in a smooth, easy and safe manner.(CBINSIGHTS, 2021)

3.3. Government and the public sector: Blockchain technology can be used by governments and public sector organizations as a more secure and adaptable alternative than conventional systems, by accelerating the exchange of information between market players and regulatory agencies which helps to confronting the problems related to cross-border transactions. In addition, this technology allows for instantaneous global transactions, through optimal use of the data, for increasing the level of transparency and fighting corruption like tax evasion.(lagarde, 2018)

On one hand this technology can protect sensitive citizens and government data, and assist in the tracking of different services provided by the government (eg : health care, higher education, insurance industry, Tax Collection), thus reduce financial burdens resulting labor-intensive processes. On the other hand, Christine Lagarde –former Managing Director of IMF- said:(lagarde, 2018) « this technology can be a new tool for money laundering and terrorist financing, but we should fight fire with fire Based on new innovations ».

3.4. Healthcare: A number of ideas for implementing Blockchain in the healthcare sector have been made ,the majority of them revolved around the establishment and management of health information systems for patients maintained in electronic health records (EHRs)(Jaikaran, 2018, p. 06). **For example Med Rec :** « a novel, decentralized record management system to handle electronic health records, using blockchain technology, through this system, Individuals have access to longitudinal electronic health information and data, and Patients can build a holistic record of their medical data and authorize others for viewership, such as physicians providing a second opinion or family members and care guardians». To make informed decisions around their care.(Ekblaw, Azaria, Halamka, & Lippman, 2016, p. 10)

3.5. Cybersecurity : Blockchain technology has been proposed as a solution to Cybersecurity challenges due to its digital nature, as it can be used in asymmetric encryption to assign identities to users or devices and helps increase trust and data integrity, also used to manage cyber supply chain risks and ensure the safety of hardware and software until it reaches the end user .(Jaikaran, 2018, p. 06)

3.6. Auditor responsibility : a blockchain technology can add new tasks and responsibilities to the auditor, such as verifying the compatibility of all information on the chain with those in the physical world, and Making continuous audit considering that the information available fully on the chain, to access to lowest proportion of errors and manipulations of financial statements.(Mohamed Sabri Nakhal, 2020, p. 17)

Auditors should take the following actions to adapt to the new environment: they must obtain competency in the usage of blockchain technology, and they must be able to analyze the costs and advantages of using blockchain technology. Audit firms may be able to attain this goal by adjusting their hiring and training procedures.(Liu, Wu, & Xu, 2019, p. 08)

3.7. International trade: This technology can be used in: finance, supply chain management, logistics, blockchain insurance application.

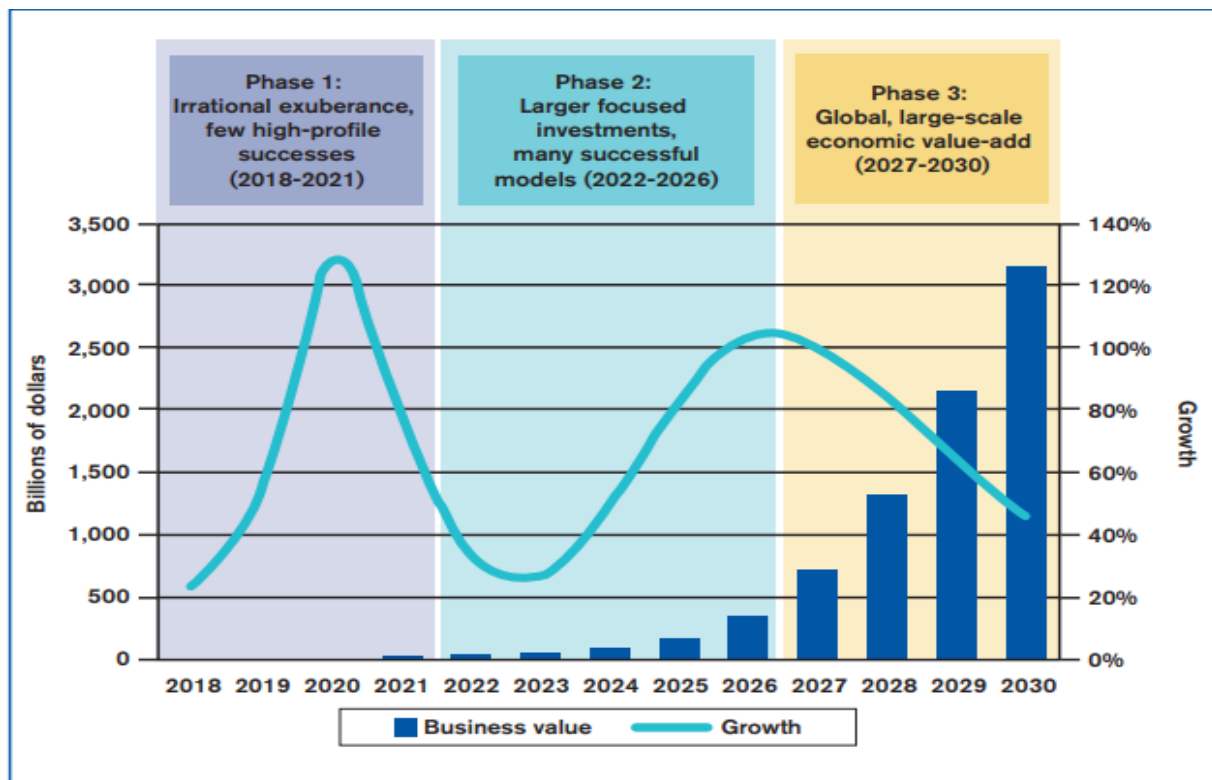
Despite the dangers that new technology poses, its applications ,however, have grown in a variety of fields. Blockchain technology can be used in many operations associated with international trade, we present below these uses.

4. Blockchain and international trade :

– Blockchain growth:

A renowned scientific study and market consulting firm, Gartner, estimated investment decisions worth more than 3 billion of dollars in blockchain technology by 2030.(Ganne, 2018, p. 107)According to Gartner forecasts, the figure below depicts the growth rate of blockchain investment.

Figure 2:Blockchain business value forecast



(Ganne, 2018, p. 107)

Blockchain's potential benefits for international trade are numerous. It may drastically cut a number of trade expenses and provide new chances for Micro, Small and Medium Enterprises, particularly small manufacturers from developing countries, to enter global markets since it makes it easier to track products along the supply chain.(Ganne, 2018, p. 106)

Phase of “irrational exuberance”, few high profile successes». This stage requires additional years to ensure the positive impact of blockchain technology, evidence and many experimental projects before the emergence of actual successful models, and this stage is before evaluating the real results of technology and its effects on various international business operations.(Ganne, 2018, p. 107)

From what we discussed, we have seen that the adoption of the blockchain will generalize their use in various areas; International trade is pervaded by a variety of important services and processes that are now proving to be a time and effort loss. The following summarizes this:

* « Irrational exuberance refers to investor enthusiasm that drives asset prices higher than those assets' fundamentals justify. or more than being a result of estimate the true value» .see book Irrational Exuberance Robert j. shiller

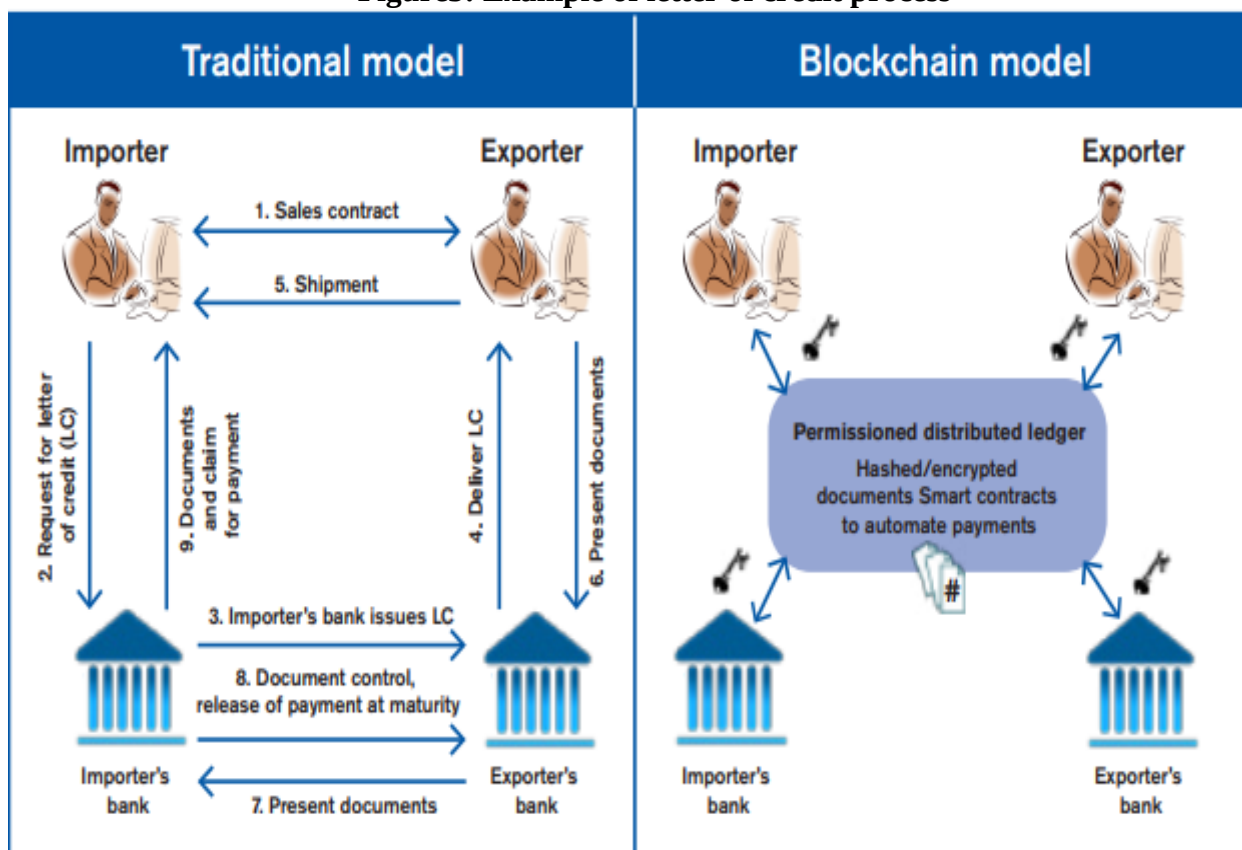
4.1. Facilitate trade Finance :

Depending on the strength of **peer to peer** network, cryptocurrencies, that rely on blockchain technology, can achieve faster settlement than traditional monetary transactions, for example : an international funds transfer through banks takes around three days to settle depending on current technologies such as SWIFT, while some cryptocurrency platforms can complete transactions within few minutes or seconds only.(arab monetary fund, 2019, p. 10)

On the other hand, existing traditional trade finance is typically linked with high costs and laborious processes due to a paper-heavy process and the problems of coordinating the various participants involved in a trade transaction; there are additional challenges connected to trust, detection, and prevention of fraud. Because of these problems, banks, fintech startups, and information technology corporations are looking into the prospects of Blockchain for trade finance. This technology has the potential to improve the security of traditional trade finance transactions while also simplifying and automating procedures, notably letters of credit.(Ganne, 2018, p. 20)

In comparison to the old techniques, the following figure show how blockchain technology may reduce letter of credit procedures.

Figure3: Example of letter of credit process



(Ganne, 2018, p. 23)

From the figure 3:Letters of credit are paper-intensive and involve several participants in traditional trade finance, but blockchain technology saves money, time, and effort.

According to bank Barclays, Barclays and innovative start-up company Wave. It is considered the first companies to introduce blockchain technology into its foreign business transactions.(Barclays, 2016)

4.2. Logistics and Supply chain management :Blockchain use cases in logistics :

a. Digitalising supply chain exchanges :

Logistics operations consist of multiple activities starting from packing and shipping goods from the factory or departure warehouse and then transporting them to the port or airport of departure, insuring the international transport process in addition to customs clearance of exports and imports, and the operations that take place after that in the port of arrival from unloading and shipping.(Belu, 2019, p. 07)

Logistics operations are a complex system that includes many parties, the most important of which are: banks or financial institutions, exporters and importers, insurance companies, customs, logistics companies, various national and international authorities, customs brokers.(European parliament, May 2020, p. 35)

The large number of parties engaged in supply chains necessitates the sharing of a large number of documents as well as significant transaction volumes. The vast bulk of these documents were manually generated and handled. However by storing trade-related data in permissioned blockchains, stakeholders could have real-time access to past transactions and relevant documents such as import and export clearance or bills of lading, decentralized ledger-based applications could provide a robust and resistant to any modification that can happen to the date of contracting deals, for example.(European parliament, May 2020, p. 36)

Furthermore, blockchain allows companies to better track goods, such as raw materials, intermediate goods, and finished goods , As items travel through a complicated global supply chain, a blockchain platform may incorporate accompanying various documentation such as Certificate of origin and insurance, and payment information with better fidelity than existing technology, parties in the supply chain from the smallest seller to the final customer may use blockchain to monitor and track commodities.(Rachel F, june 15 2019, p. 01)

Goals of Blockchain uses in supply chain management:(European parliament, May 2020, pp. 35-36)

- ✓ Quality control and efficiency (eg : can help avoid shipment delays)
- ✓ Smart contracts (help to speed up the entire logistics process).
- ✓ Fraud or tampering detection (determine where a product was perhaps tampered with or adulterated throughout the supply chain).

Also:

- ✓ simple administration of the transaction's paperwork, both at the stage of delivering the goods and collecting the counter value of the commodities, as well as at the stage of taking ownership of the acquired goods.(Belu, 2019, p. 07)
- ✓ Product or shipment tracing: for example Walmart -company the largest retailer in the world- the company created a food traceability system based on Hyper ledger Fabric, Walmart wrote in a letter to suppliers: « Using the IBM Food Trust network that relies on blockchain technology, we have shown that we can reduce the amount of time it takes to track a food item from a Walmart Store back to source in seconds, as compared to days or sometimes weeks »... Frank Yiannas Vice President of Food Safety at Walmart says « We can take a jar of baby food and see where it was manufactured and trace back all the ingredients to the farms! »*,The corporation may start tracking other data, such as sustainability, in addition to tracing the product's journey.(HYPERLEDGER)

* read more about using blockchain technology in Walmart company can be found by visiting :
[“https://www.hyperledger.org/learn/publications/walmart-case-study”](https://www.hyperledger.org/learn/publications/walmart-case-study)

b. Blockchain for insurance :

Blockchain is also starting to make an impact in the insurance industry. Blockchain can help streamline operations to reduce costs and enhance customer service. At the same time, it can open the way for new business opportunities(IBM).Ocean shipping is the main transport mode for global trade, so marine insurance is crucial and plays a critical part in international trade.

The application of Blockchain is also being tested in the field of multinational insurance policies. In June 2017, AIG, IBM, and Standard Chartered Bank reported that the first global smart-contract-based insurance policy using Blockchain has been successfully trialled.(Ganne, 2018, p. 54)

- **Benefits of Blockchain application to marine insurance :**(European parliament, May 2020, p. 38)
 - ✓ Blockchain technology helps brokers reduce administrative costs.
 - ✓ This technology enables both exporters and importers as well as transport companies to reduce and avoid risks so that they can cover potential risks in a timely manner.
 - ✓ In comparison to traditional paper methods, insurance firms can quickly manage risks and pay all premiums on time.

4.3. Use cases for blockchain in traceability and transparency of commercial transactions:

To combat counterfeiting in international trade, blockchain may be used to securely store and retrieve evidence of authenticity, trademark certificates, and other identifying information. Such methods are commonly used to avoid fraud in markets such as medicines, art goods, and so on. Such traceability solutions require labeling with a particular tag that contains product information and may be scanned with a specialized application to verify its validity. The product may then be checked by end users, authorities, and other stakeholders to ensure it is genuine and not stolen. Therefore blockchain technology would help in preventing duplications and fraud.(European parliament, May 2020, p. 39)

Trafficking in counterfeit products and copyright piracy is a concern for governments, individuals and brand owners, so blockchain technology, with its properties, is one of the methods that can be used to register and manage intellectual property rights and evidence of ownership and first use of the trademark. (Ganne, 2018, pp. 57-58)

5. Companies Using Blockchain Technology:

In this element, we focus on case study of three institutions that intervene in the field of international trade, namely: Arab Jordan Investment Bank, Walmart corporate and Skandinaviska Enskilda Banken.

5.1.. Arab Jordan Investment Bank:

a. Profile of the bank:

Arab Jordan Investment Bank was established in 1978 (The Association of Banks in Jordan), the bank inaugurated its branch in Limassol, Cyprus, in 1989. In 2006, the bank established the Arab Jordan Investment Bank (Qatar), which was the first bank in the Qatar Financial Center (QFC) to provide the advanced banking, and investment services in Qatar and other Gulf Cooperation Council countries. The Arab Jordan Investment Bank seeks to provide innovative services and the latest financial products to meet the demands of its clients, whether they are individuals, small and medium enterprises, or large companies (Arab Jordan Investment Bank)

b. Using Blockchain technology in Arab Jordan Investment Bank:

As a market leader in the adoption of new financial technologies and the provision of services to meet the changing demands of consumers, in 2019 Arab Jordan Investment Bank was the first bank in the *Middle East and North Africa* region to launch the Oracle Blockchain Cross Border Transfers between Arab Jordan Investment Bank subsidiaries. The Bank successfully implemented the first transfer of funds between its headquarters in Jordan and its Cyprus Branch, marking a new leap for Arab Jordan Investment Bank in the world of advanced financial technology. (Arab Jordan Investment Bank, 2019)

c. Value addition through using Blockchain technology:

The adoption of Blockchain technology has enabled the Bank to establish new standards for cross-border payments and transfers by eliminating intermediaries with increasing the speed of banking transactions and eliminating complex settlement processes, thereby making safer, faster, cost efficient and more timely transfers available 24/7 through its online platforms. Therefore Blockchain technology will reduce chances of fraud, It will help the Bank comply with local and international business standards. (Arab Jordan Investment Bank, 2019)

5.2. Walmart corporate:

a. About Walmart:

Is a global retail firm based in the United States that owns and manages a chain of hypermarkets, From humble beginning as a small discount retailer in Rogers, Ark., in 1962, Walmart has opened thousands of stores across the United States and has grown overseas, it become As one of the world's largest retailers.(walmart)

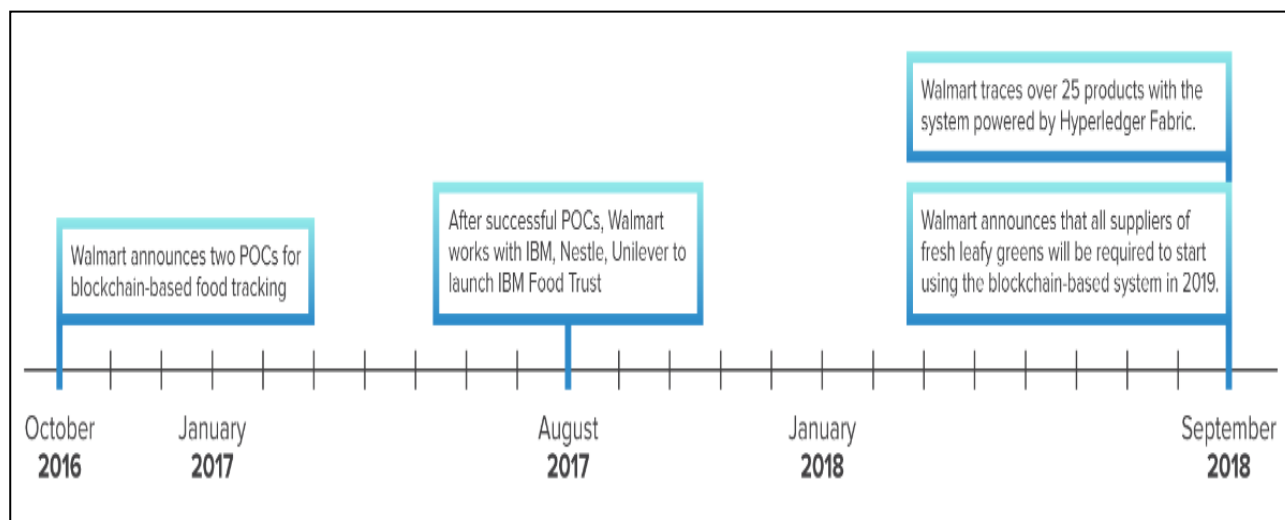
Walmart (New York Stock Exchange: WMT)helps people all over the world save money and living a better life, through enables them to shop in stores, online, and on their mobile devices at any time and from anywhere. Over 275 million consumers and members visit over 11,300 shops each week (Walmart) under 58 banners in 27 countries and ecommerce websites. Walmart employs roughly 2.2 million workers globally, with revenue of \$514.4 billion in fiscal year 2019.(walmart, 2019)

b. Creating a (traceability) system Using blockchain technology:

In October 2016, Walmart has begun work on two proof-of-concept (POC) projects with IBM, its technology partner. The first was about tracking the origin of mangos sold in Walmart shops in the United States, while the second was about tracing pork sold in Walmart stores in China. The aim is to figure out which farm they came from as quickly as possible. After phoning and emailing distributors and suppliers, the team received a response approximately seven days later. By industry standards, this was not bad, but Walmart intended to do a lot better. So, they collaborated with IBM to develop a blockchain-based food tracking system. The result, time it takes to track the source of mangoes in the United States has decreased from seven days to 2.2 seconds.(HYPERLEDGER)

In August 2017, after successful proof of concept, Walmart and IBM teamed up to set up the IBM Food Trust, involving major food companies such as Nestle and Unilever. (figure4)

In September 2018 Walmart wrote in a letter to suppliers «Walmart has piloted new technology in collaboration with numerous suppliers and IBM and we have demonstrated that meaningful enhancements to food traceability is possible. Using the IBM Food Trust network that relies on blockchain technology, we have shown that we can reduce the amount of time it takes to track a food item from a Walmart Store back to source in seconds, as compared to days or sometimes weeks». What was also states in the letter is that «Walmart's direct suppliers are required to conform to one-step back traceability on the blockchain network by January 31, 2019. Thereafter, the suppliers are expected to work within their vertical systems or with their suppliers enable end-to-end traceability back to farm by September 30, 2019».(walmart, 2018)

Figure 4: Stages of using Blockchain technology in Walmart

Source: (HYPERLEDGER)

c. Value addition through using blockchain technology in Walmart:

Blockchain is a system of recordkeeping that is open to users. Because the change of information is visible to everybody, faking information becomes exceedingly difficult. (Matt, 2018), The most important results of applying this technology in Walmart are summarized below:

- It's a secure and reliable approach to digitize data and share information in a large and complex network. For food safety, this makes it easier to spot problems in the supply chain and protects customers from foodborne diseases. (Walmart, 2019)
- Provides more transparent supply chain for customers.
- Robert Tauxe, director of Centers for Disease Control and Prevention Division of Foodborne, Waterborne, and Environmental Diseases (USA) said: « Enhanced ability to trace a contaminated food back to its source will help government agencies and companies to identify the source of a foodborne disease outbreak, coordinate more effective recalls of foods thought to be contaminated, and learn where past problems began ». (Matt, 2018)
- Previously, traceability was relied on paper records making it difficult, labor-intensive and even impossible to follow a product back to the farm. Walmart has successfully established a blockchain-enabled food traceability network in collaboration with IBM and 11 other food firms. The time it took the retailer to trace an item from store to farm was lowered from seven days to just 2.2 seconds. (Walmart, 2019)

5.3 Skandinaviska Enskilda Banken (SEB):

a. About Skandinaviska Enskilda Banken (SEB):

Stockholm's Enskilda Bank, founded by entrepreneur André Oscar Wallenberg in 1856, is a leading northern European financial services institution. In 1972, Stockholm's Enskilda Bank and Skandinaviska Banken merged to become Skandinaviska Enskilda Banken, which was eventually shortened to SEB. One of the main reasons for the merger was to offer the banks a better chance to compete in an increasingly competitive worldwide market. SEB provides financial advice and a wide variety of financial services in Norway, Germany, Denmark, UK and Finland, and is keen to provide full services to various clients, branches of this financial institution are located in more than 20 countries. (SEB)

b. Blockchain technology in Skandinaviska Enskilda Banken:

The stages of using Blockchain in Skandinaviska Enskilda Banken may be summarized in:(SEB)

- In 2015, SEB was the only Nordic bank to join an international banking collaboration to explore the famed blockchain technology used in the cryptocurrency Bitcoin. The program has the support of nine big investment firms, including Goldman Sachs, JP Morgan, and Credit Suisse. They've formed the Distributed Ledger Group, with tech company R3 to set common standards for leveraging blockchain technology. In 2017, SEB takes part ownership in blockchain company R3

- In August 2016. SEB Venture Capital has invested in Danish blockchain payment company Coinify.

- SEB inked an agreement with Ripple (fintech company), a San Francisco-based, in November 2016 , to employ blockchain technology as a payment transactions foundation, Customers will be able to make real-time transactions between their SEB accounts in Sweden and the bank's branch in New York , the solution may be expanded to include all regions zones in which bank active.

- In 2017, SEB and Nasdaq have developed a prototype for a new fund trading platform based on blockchain technology. The basic idea is that market players, fund companies, distributors, and others will be able to share a distributed database on which all transactions and modifications are promptly registered. The goal is to improve the efficiency of buy and sales procedures- which is now characterized by manual procedures, long lead times-.

- In 2019, Global blockchain network being launched which enables the sharing of data and digital assets between business networks.

- In 2020, SEB and Wärtsilä, a Finnish industrial group, have together carried out a ground-breaking test of secure data sharing between companies in Trade Finance. The prototype demonstrates that manual and time-consuming exchange of documents can be replaced by data interchange which enables automated processes. The use-case that has been tested is about handling Letter of Credit (L/C) which is the form of guaranteed payment by a bank used in international trade that allows the seller to ensure that they will get paid by the buyer. This is done by issuing a L/C which involves both the seller's and the buyer's banks. In the prototype the document exchange between Wärtsilä and SEB, which is normally done by mailing PDF documents between the parties, has instead been done by exchanging structured data sets.

c. Value addition through using blockchain technology in Skandinaviska Enskilda Banken : This is illustrated by:(SEB)

- In the context of an export letter of credit transaction, blockchain technology has the potential to generate significant advantages for all parties and decrease risks. with the involvement of all stakeholders (buyers and sellers, the notifying and confirming bank)

- The blockchain technology is advantage is that it eliminates the need for an intermediary to authenticate each transaction, allowing transactions to be completed more quickly, cheaper, and more easily than in today's financial system, Rasmus Järborg, head of SEB's Strategy Office said: "Using this new cooperation in *Distributed Ledger* Group we get the opportunity to explore a technology that has the potential to deeply change the role of banks in the foreign exchange and securities trading markets, in custody and for international payments".

– Letters of credit (LoC) are paper-intensive instruments, both for exporters and importers, as well as for banks. By digitizing the process, Contour's platform blockchain based solution has reduced the time taken from 5–10 days to as little as 24 hours. And the amount of paper work is reduced accordingly.

– The letter of credit contract and document are to a large part exchanged between the parties by physical mail. The new platform based on Blockchain is therefore expected to reduce lead times by 90% from an average of ten days to less than 24 hours by replacing today's paper-based process with a digital solution. This replaces SWIFT and physical mail.

Conclusion:

From our study, we conclude that the applications of the blockchain have expanded to many areas, as it was the beginning of its emergence and use with cryptocurrencies where technology is applied now into the fields of health, insurance and government services...etc. The use of technology in different activities connected to international trade was the most essential item we concentrated on, as we concluded that Blockchain technology helped in shortening time, making deals, facilitating financial operations and reducing time, effort and cost (AJIB and SEB). This technology can effectively replace some tasks that were traditionally dependent on labor force. also allow traceability of products from early production until they reach the final consumer(Walmart corporate), Because diverse information about the product and its source is available on the chain, it is possible to ensure the safety of products, intellectual property protection, where Blockchain can make it easier to detect fraud and data manipulation.

Recommendations:

There are numerous advantages to using Blockchain technology, however, due to certain challenges; the impact of its application in the actual world may be little.

- Companies and governments are still prioritising more traditional procedures in international exchanges, especially in developing countries, as the introduction of Blockchain technology in commercial transactions, mainly international ones, requires a good technological infrastructure. The latter requires massive attention, otherwise it will be impossible for even international companies that use Blockchain technology to work with it and forces them to work with the old traditional transactions.
- Companies must be careful when choosing to work with smart contracts as the same technology can be used for the purpose of fraud, which makes it difficult for the exchange parties to recover their rights
- Training in the area and improving skills of the country or company that uses smart contracts are required for universalization or work growth using Blockchain technology.
- Governments must reduce restrictions on the financial and business sectors.

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