Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

Issue 2/2022

THE ROLE OF BLOCKCHAIN TECHNOLOGY IN THE UNIVERSAL METAVERSE FROM THE PERSPECTIVE OF COMPETITIVE RELATIONS IN BUSINESS. CHALLENGES AND UNCERTAINTIES

MOTTO: The definition of the modern world:
"Any advanced technology can be confused with magic."[1]

Roxana-Daniela PĂUN[1]
[1] Faculty of Legal Science and Administrative Sciences, Spiru Haret University, Bucharest, Romania, Email: roxana.paun@spiruharet.ro

How to cite: PĂUN, R.D. (2022). "The Role of Blockchain Technology in the Universal Metaverse from the Perspective of Competitive Relations in Business. Challenges and Uncertainties." *Annals of Spiru Haret University. Economic Series, 22*(2), 39-59, doi: https://doi.org/10.26458/2222

Abstract

Blockchain technology is becoming one of the most prominent trends in finance and digital innovation since the creation of the Internet. Blockchain technology makes data private, permanent and verifiable. Data and transaction logging is public, but encryption protects them from prying eyes and tampering. The architecture of the blockchain database and the associated

[1] Arthur C. Clarke - 16 December 1917 - 19 March 2008 - British science fiction writer, inventor and futurist. He was a commentator and host of the British television series Mysterious World. For a long time, Robert A. Heinlein, Isaac Asimov, and Arthur C. Clarke were known as the "Big Three" in science fiction. His reference work is the novel Space Odyssey 2001, written based on the screenplay of the film of the same title with American director Stanley Kubrick. The screenplay of the film is based on a short story published by the author in 1951, entitled Sentinel. Source: https://en.wikipedia.org/wiki/Arthur_C._Clarke

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900
Issue 2/2022

protocols provide a solid foundation for creating new classes of applications. This is just the theory. In practice, however, blockchain technology has proven to be somewhat less miraculous. It is powerful and effective in a wide range of areas, but in addition to the well-publicized benefits of blockchain, experts have discovered a set of disadvantages of blockchain technology. That's why the Bitcoin blockchain is often referred to as the "open register" of Bitcoin. Experts around the world, with the exception of a few skeptics, see blockchain as a high-impact technology that has the potential to revolutionize the world of finance, gaming, entertainment and more.

Starting from the analysis carried out by specialists in the field on their website, and from information on this technology, the present study brings some arguments to draw the attention of the more or less informed reader to the risks and dangers to which they are exposed and to whom this technology is applied in sensitive areas regarding the life, health, freedom and privacy of the citizens of this planet.

Even if the role of this technology in some fields is undeniable, it must still be treated with great care from the perspective of respecting the fundamental rights and freedoms of human beings, the universal values that mankind has gained in centuries of human effort and sacrifice for current and future generations to evolve without repeating the mistakes of history.

History makes fun of those who do not know it, repeating itself, said Nicola Iorga.

Keywords: *blockchain; metaverse; cryptocurrency; identity management; digital identity id; hashing; encryption.*

JEL Classification: K2, K24, M2, M15, M21, O3, O32, O33

Introduction

Globalized society and technological developments are a reality of our contemporary life. In this context, the use of modern technologies in all areas of our lives is a challenge that requires concrete solutions to optimize the effects of using these technologies in order to improve the quality of life and optimize work in all areas. Blockchain technology is a conclusive example, already generating a series of pros and cons that require a detailed analysis to provide the optimal solutions to adapt this technology to the new reality of the world business world.

Blockchains are databases that are only stored on one central server, which is accessible to all users, but are stored on users' computers around the world. This

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

database is distributed with a peer-to-peer architecture. "Distributed" means that data is stored in multiple locations, and "peer-to-peer" means that there is no central authority that holds a master copy of the data, which is why authorities around the world are reluctant to use this technology. We will see further in this study. This topic is a challenge for everyone involved, but especially for end users of this technology, who can use these databases to make everyday work easier in the company, but also in society, in areas that we will briefly list in this paper.

Being a subject that, although it has been researched and developed for years in areas such as computer games, gambling, brings new challenges, vulnerabilities and uncertainties. Although it has gradually entered many other areas, it is becoming a reality that requires authorities around the world to accept, regulate, optimize it from the perspective of information security and data protection through secure encryption. There is currently a lot of experimentation with variations in the basic architecture of the blockchain, finding that mainstream blockchains behave well in small quantities, but when it comes to scaling, they have trouble supporting full-scale applications.

Transaction fees are rising, and processing times are rising by the hour. But many new blockchains include innovative solutions to these problems. Researchers continue to experiment with consensus mechanisms, coordination of parallel sub-links, private blockchains and other technical issues. The interdisciplinary character of the subject derives this technology from the classic theme of computer programming, precisely through its implementation in various fields. Thus, if at first it was intended to be a technology for cryptocurrencies, later it was developed by the creators, with the contribution of all specialists who wanted to get involved, as we will learn from the analysis undertaken in this study.

History: Bitcoin is the creation of Satoshi Nakamoto, but blockchains were invented at a completely different time and place, although it seems that the blockchain architecture that makes possible the existence of Bitcoin and other cryptocurrencies was also established by Nakamoto, who launched Bitcoin blockchain and cryptocurrency in 2009. However, a generation before Nakamoto's white paper, a doctoral candidate at the University of California at Berkeley (California) named David Chaum pointed out the blockchain database in the dissertation, "Computer systems established, maintained and trusted by Suspicious Mutual Groups." That was in 1982, 27 years before Bitcoin. There were also decentralized databases before Chaum, however, according to experts, the year of the invention of this technology is 1982.[2]

[2] https://kriptomat.io/ro/blockchain/istoricul-blockchain/

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

Chaum's "suspicious networks" were not created specifically to support digital currencies, but the connection was obvious. Based on his work on blockchain technology, Chaum launched a company called DigiCash in 1989, and in 1995, the company introduced a cryptocurrency with various names such as digicash, eCash, or cyberbucks. DigiCash's digital currency promised to offer many of the functions of modern cryptocurrencies, including anonymity as a key benefit. Even governments could not decrypt eCash-encrypted transfers, according to the company. However, Chaum failed to persuade the banks to support the project, and without an internet infrastructure that supports peer-to-peer transactions, but only with stock exchanges, the project was unsuccessful. DigiCash went bankrupt in 1998.

In 2008, the history of blockchain technology became interesting when a research paper appeared on online discussion forums. The paper was called "Bitcoin: A peer-to-peer electronic money system" which was attributed to Satoshi Nakamoto.

Experts say that the blockchain protocol highlighted in Nakamoto's work is essentially the same as that of David Chaum. The only significant difference is the addition of the consensus mechanism "proof of work for the validation of blocks and for the mining of coins". However, most people believe that Satoshi Nakamoto created blockchain technology.

Nakamoto uploaded the blockchain source code to SourceForge in 2008 so that software developers around the world could contribute to the project. The first modern blockchain was launched in January 2009, along with the associated cryptocurrency, Bitcoin.

Bitcoin has been the only blockchain and the only viable cryptocurrency in the world for two years. In 2011, developers launched blockchain-based cryptocurrencies called Litecoin and Namecoin, both derivatives of the Bitcoin project. Peercoin followed in 2012, and the following year, five blockchains were introduced, including the first memecoin, Dogecoin.

2015 is another important year, as the Ethereum blockchain was introduced by a team that also included contributors to the Bitcoin project. Ethereum was different. Other blockchains existed only to support specific cryptocurrencies, but Ethereum was introduced as a platform for running decentralized applications. The Ethereum blockchain holds executable source code in addition to data, so it is the foundation for thousands of blockchain-based applications. Bitcoin and Ethereum are the most widespread blockchains in use, but now there are hundreds and thousands more, all based on Nakamoto's original concept. Blockchains can be public, such as the Bitcoin blockchain, or private, used for internal data management.

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

Researchers have created many variations on the basic architecture of the blockchain. Many include innovations to support faster processing, higher scalability, and lower transaction fees. Consensus mechanism, coordination and subordinate sub-links, private blockchains and other key technologies are now part of projects around the world.[3]

Blockchain technology in the universal metaverse from the perspective of competitive relations in business. Blockchain connection with universal metaverse[4]

The individual elements of the technology required to implement Metaverse 1.0 already exist. There is technology to create and navigate virtual neighborhoods while we are embodied in avatars. E-commerce has proven its viability, becoming more widespread. There are virtual reality headsets for use at home when we enjoy entertainment and electronic eyeglasses that serve as displays for applications running on the computers we carry with us - our smartphones. Today's PCs, tablets, and phones are powerful enough to meet the requirements of a virtual world interface layer between users and applications. All we have to do is put the pieces together. Even if the negative effects of these technologies on human health are not yet presented, they are beginning to appear, and the dependence on technology has already created new diseases of the human body exposed by the radiation waves generated by these technologies.

Once the internet has metamorphosed into metavers, we may find that the game-style visual interface is the least important element. Researchers will learn from feedback on early implementations, and by the time the metaverse reaches a global audience, it may be quite different from what we imagine today. Only time will tell if researchers will be able to turn the Internet from a task-oriented work and entertainment platform into a place where we can spend our happy lives.

No one has fully imagined such a metaverse, although voice recognition is a reality widely accessed by any user. Immediate, automatic translation is another example, which has already materialized in the disappearance of the translator / interpreter profession.

[3] https://kriptomat.io/ro/blockchain/ce-este-tehnologia-blockchain/

[4] See: What is Metaverse and Why Should Someone Care?, https://kriptomat.io/ro/blockchain/ce-este-metaversul/ What Does This Have To Do With Blockchains?

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

Some of the innovations in the metaverse may be quite ineffective. Today you can order pizza by visiting a website and click two buttons. Metavers dreamers imagine a bustling city where your avatar walks into a pizza restaurant and orders a conversation with a counter employee. This is more fun but less effective. As the metaverse evolves, we may find that placing a speech command through a digital assistant such as Alexa or Siri is a better way to feed the family.

The authors of the cryptocurrency site have identified three major ways in which blockchain technology can play an important role in a universal metavers:

1. The metaverse could incorporate blockchain technology as a lower-level service to ensure that the emerging reality of consensus is truly decentralized. You will visit the Google metaverse or the Apple metaverse or the Meta metaverse. All three companies are pursuing this goal as soon as they can. Interoperability will require protocols and decentralization that could reduce the profitability of tech companies as usual. But this interoperability is essential for the metaverse to reach its full potential. (already illustrated in many SF movies)

2. Secondly, the metaverse will have to have a world currency without any friction. It doesn't have to be Bitcoin or Ether, but it makes sense for it to be a blockchain-based cryptocurrency. Every e-commerce website will want to set up a metavers store. Currency conversion and credit card regulations, however, are an obstacle to this interoperable future. The metaverse may use multiple currencies, but the conversion must be automatic, invisible, and instantaneous.

3. And finally, the blockchain world offers a good solution to personalization and ownership issues. You could visit a virtual store to customize the avatar to decorate your home from metavers. You will need a way to establish ownership of the digital items you buy - and that's exactly what non-fungal chips can be used for. Today's NFTs could be used as an attached technology that can meet a number of technical needs in metavers.

The Snoop Dogg rapper, who created a version of his villa in real life that users can visit The Sandbox. They will be able to take a tour of the villa, interact with the visual representations of the singer's pets, cars, statues, souvenirs and more, all created as NFTs. They can also buy concert tickets with VIP access permits in the Virtual Dogghouse. Users who buy Snoop-branded NFTs can use them outside of Snoop Dogg's Sandbox virtual world portion. Snoop's dogghouse gives us a glimpse of what the metaverse might be. But because it's only available to Sandbox users, it's not metavers. For the metaverse to be successful, it must be universally valid, interoperable, and integrated.

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

Challenges and uncertainties regarding the evolution of blockchain technology

At this point, there are challenges and uncertainties that relax some and worry others. After so many centuries of certainty, control of populations, incomes, expenditures, a system is created that seems to be out of control by anyone.

Even though Satoshi Nakamoto's blockchain is not the first distributed database and is not the first peer-to-peer database, so it is not the first blockchain, it is still the basis for the first modern cryptocurrency and the starting point for all blockchains after him. There are even differences in terminology. Database programmers call them records, and blockchain programmers call them blocks. Row, record, block - all refer to a single piece of data. In computer science, this structure is known as a double-stranded list because it links back and forth. Memory chips in your computer and smartphone detect system usage errors. This system is also used to find errors on your hard drive. This simple checksum system is essential for blockchain technology, and first-year computer science students are well acquainted with it. However, Nakamoto anticipated vulnerabilities in his blockchain architecture. Instead of a simple gathering to create checksums and track links in the data chain, he used a cryptographic process called "hashing."

Hashing and Encryption

Hashing creates a unique identifier by combining the value of the previous record with the value of the current record in a one-way mathematical process that results in a hash value that looks like a mathematical formula composed of numbers and letters, similar to passwords we use to encode access to certain activities performed using the Internet (mail access, bank card access, etc.). It is called unidirectional because there is no mathematical verification process to transform that formula. Each blockchain transaction is validated using the hash mechanism, detailed on the site: What Is Blockchain Technology And How Does It Work? https://kriptomat.io/ro/blockchain/ce-este-tehnologia-blockchain/

Nakamoto has set up encryption to ensure that data stored in the blockchain is visible to each user, but can only be decrypted by those who have the right decryption keys. Without a key, all you see is a meaningless string.

However, hashing and encryption consume a lot of computing resources. It's a slow process. Worldwide, Bitcoin's entire blockchain network is limited to a processing level of 4.6 Transactions Per Second. (TPS). Credit card companies typically process an average of 1,700 Transactions Per Second and claim to have the capacity to support 56,000 TPS.

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

The computer network that validates Bitcoin transactions consumes more electricity than Switzerland. A website called Bitnodes provides an updated number of nodes that are currently online and accessible, but a quick Google search shows that experts provide estimates of the number of nodes between 6,000 and 200,000. Nobody really knows how many they really are. And these are just a few elements that are identified by specialists as inconveniences and challenges that generate uncertainties about the degree of applicability of this technology.

The most widely used blockchain is Ethereum, which includes changes that make it more flexible than the Bitcoin blockcain. It has its own cryptocurrency - Ether - but the developers have created on this blockchain many additional cryptocurrencies that run on it, being a platform with various types of use in the real world in addition to virtual money.

One of the main benefits of Ethereum is that it has executable programs in addition to the existence of data. These programs are known as "smart contracts." For example, a smart contract created for ten could add up to all the Ether tokens added to your account this month and send 10% to the church as a donation.

Has anyone thought that this technology, at the rate with which it is spreading and developing, could be used in the future to rewrite current employment contracts in terms of remuneration, where the classic form of money known to us that will be replaced by coins virtual media that only circulates on the internet and not in our pocket? And then the points received in these "smart contracts" to be used for the purchase / payment of goods and services, thus generating total control of humanity? Now it looks like a science fiction movie script, but which, coupled with the information on identity management discussed in the following pages of this paper, is beginning to emerge as the new reality of a society controlled "for the common good" by a handful of people who have accumulated huge revenues with which many of the world's states have already bought.[5]

Blockchain applications: A blockchain is a peer-to-peer database architecture with complex encryption protocols for verifying data before adding it to the database. We think of blockchains as the foundation of cryptocurrencies because the introduction of Bitcoin has been a highly visible use in blockchain technology beyond computer science. Its architecture is also suitable for applications in many industries and is gradually expanding to various fields. Blockchain smart contract technology means the ability to manipulate blockchain data with executable code,

[5] For those who still don't think they should to watch the sci-fi movie "Equilibrium"

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

which is stored in blocks, and turn the blockchain into a flexible foundation for applications across a wide range of situations.[6]

Among the areas in which it already works is health, by storing medical records in the blockchain database that becomes accessible wherever there is an internet connection. This allows doctors, insurance companies to access each patient's medical data through simple online transactions, and with appropriate permission doctors can add new data to the registration. This blockchain technology has the potential to revolutionize health by giving patients complete control over their medical records, but also the efficiency of payments for medical services, which comes as a bonus. Insurance settlements using the same blockchain-based applications can eliminate the risk of fraud, improving the speed of reimbursement for losses in the insurance industry. Immutable property value records, claims and reimbursements provide much-needed visibility to the insurance industry. And smart contracts can reduce much of the paperwork required for insurance payments. The use of this technology in the distribution chain brings many advantages in the management and development of business relationships. Manufacturers, sellers and consumers all have an interest in tracking supply chains from original sources in the buyer's shopping cart. Whether checking food for inorganic contaminants or ensuring that import duties are paid across national borders, blockchains can play a key role in tracking goods through their manufacturing to use. In fact, Walmart is already using a blockchain that tracks the supply chain for the food it sells in stores. It has also been used in Romania since April 2021, when a project was announced for Romania to monitor eggs via the blockchain before they reach the store. The technology is used to store information such as the location and name of the farm or farmer, veterinary information about the hens from which the eggs came, what they were fed, how the birds were raised, the date of packaging and other details that complete the product traceability. In a certain form, the Special Telecommunications Service also used blockchain in Romania, even at the polls. "This state-of-the-art complementary solution guarantees the integrity and strengthens the transparency and traceability of the electoral process," STS reported in November 2020.

Luxury watchmaker Brieling offers certified digital watchmakers who provide authenticity. If you sell the watch, you can transfer the certificate to the new owner

[6] https://kriptomat.io/ro/blockchain/cele-mai-bune-cazuri-de-utilizare-din-lumea-reala-de-astazi/

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

by establishing a verifiable ownership chain. The technology can also be used to track the origin of food in grocery stores by tracking each transfer. More and more people care about ethical sources, and the blockchain can take part in it. Decentralized financing (DeFi) and blockchain work together like beer and pizza and track secure transactions while eliminating the need for slow and expensive intermediaries. The blockchain retains a record for previous transactions and auditors. DeFi applications are available for borrowing and lending, international remittances, investments, and more. It is possible that DeFi and not cryptocurrencies could be the phenomenal application of the blockchain.

Tracking references in a blockchain database is the perfect place to register diplomas, certificates of competency, licenses or other vocational qualifications. This is essential for medical institutions and legal practices, where hiring people without the right qualifications can lead to disaster and more. But it is easy to realize the near future in which all academic and vocational performance is added to a personal blockchain-based file for use by academic institutions, employers and even customers, for the business environment.

Last but not least, blockchain voting is the perfect application for verifying the identity of the voter guaranteed with cryptographic security, in which the blockchain network can monitor the vote, count it, and guarantee the integrity of the result.

In the world of online gaming and gambling, blockchain technology already provides a record of the randomness of the game of dice, poker hands and gaming events, where this technology is used, can record the strengths of players in role-playing games and gambling winnings. Some companies use blockchain technology to create early versions of metavers game worlds.

Digital distribution of music, movies, other artwork in the media is convenient for users, but artists and publishing companies complain about aggressive piracy. Blockchain-based distribution could copy every single digital media file and provide a convenient mechanism for viewers to make micropayments directly to creators or publishers.

In real estate, whether it's maintaining a database of land and property, selling homes without the time and expense of legal authority, or just minimizing the paperwork involved in buying property, the blockchain has significant potential to eliminate paperwork and the piles of documents now required by law to complete real estate transactions.

In tourism and leisure, Blockchain technology could serve as a basis for a rewards program that delivers coins that can be spent in a supplier store or, potentially, with cooperating businesses, in the case of airlines and hotel chains,

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

respectively companies in the travel industry that maintains loyalty programs for elite customers. Loyalty programs are a great app for privately issued chips.

In entertainment, artists, musicians and sports teams were among the first to recognize the potential of NFT's[7] to increase fan engagement. A growing number of blockchain-based platforms allow fans to purchase collectible NFTs that support the team or artist while giving fans voting rights for the team song or special places at events.

In the field of art collections and investment, auction houses that trade works of art have adopted NFT technology as a way to allow investors to establish ownership of works of art without physically owning them. Whether it's JPG files with cute kittens or Picasso masterpieces, you can now buy, collect and invest through blockchain NFT trading platforms!

Blockchain wallet - is considered the equivalent of a bank account, as it allows you to deposit, receive or send cryptocurrencies. This wallet stores information that confirms the user's possession of cryptocurrencies. When a transfer is made, it will be registered in the Blockchain, and the balances of the two parties will be debited or credited accordingly. The classification criteria for these wallets are:

a) depending on the type of access,

- ***Hot Wallet*** - these wallets are permanently connected to the internet. They have the advantage that they can be easily accessed and transactions can be done quickly, but they can pose security risks if not handled properly.
- ***Cold Wallet*** - are offline wallets, usually used as a virtual safe, for storing cryptocurrencies that will not be traded too soon. They offer increased security, but accessing them is much more difficult.

b) depending on how the private key is stored,

- ***Desktop Wallets*** - Downloaded and installed on a computer, these wallets can only be used on that device. They can provide greater security against cyber attacks, but only if the device on which they are installed is well secured.
- ***Mobile wallets*** - these are wallets that are downloaded to your mobile phone. They offer greater accessibility than desktop devices, but may be vulnerable to cyber attacks.
- ***Online wallets*** - these are not installed on the owner's device, but operate in a cloud system, and private keys are stored on a third-party server. They are fast, easy to use and safe, but require management fees.

[7] NFT = Non-fungible token

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900
Issue 2/2022

- ***Hardware wallets*** - are similar to online wallets, except that, in their case, the private key is stored on a device specially designed for this purpose, used every time you want to make a transaction. Although they are among the safest types of Blockchain wallets, they are also the most expensive.
- ***Paper wallets*** - involve printing a private key and a QR code on a piece of paper. It is a good choice for long-term storage of cryptocurrencies, and the only risk is the destruction or loss of the paper on which the Blockchain login information is printed.

We are all already familiar with the QR code, so new technology is starting to be a part of our lives, whether we like it or not! Understanding the working principle of Blockchain technology and knowing its benefits can create new development opportunities for any company and optimize current activities. With the help of quality services, provided by specialists in the field, Blockchain can open new horizons and can significantly improve the operational processes of any entity.

However, no one is talking about the challenges, the uncertainties so that we do not call them dangers in terms of the total invasion of their privacy, the limitation in the future of access to a free life, etc. There is quite a bit of information at the moment about these issues, but, analyzing "Identity Management Through Blockchain" the authors of the site https://kriptomat.io/ro/blockchain/ce-este-managementul-identitatii-prin-blockchain/ define "Identity management is a complex process that involves identifying, authenticating, and authorizing individuals to access systems, networks, and applications. Robust digital identity solutions are being implemented to reduce the risk of fraud, identity theft and data breaches. "

Thus, aspects are revealed and summarized regarding: how blockchain-based ID systems work, increasing self-sovereign identity, blockchain reputation scoring systems, the use of daemon wallets for transaction automation, micro-payment management and identity-based subscription issues digital. Without being in a science fiction series, we find that Hollywood made several films many years ago that presented us then this reality that becomes now and in the following years the future of humanity!

"Concerns about privacy are paramount when it comes to identity management, and this is especially true of government-issued documents such as passports and driver's licenses. Birth certificates are a living example of the paper-based pre-digital identity management era. Data security breaches are a major threat to identity security, with hackers often selling stolen personal information (names, email addresses, passwords, etc.) on the darknet. In 2019 alone, hackers accessed

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

more than 7.9 billion consumer records, including personal and financial data. No wonder cyber-attacks of this nature are seen as a major risk to global stability. All of these concerns add to a problem that can be solved by storing digital identity in the blockchain. "

I allow myself not to share this point of view of the authors, starting from a statement by Bill Gates who said at a conference in the USA that human intelligence created the computer, the programs and then the virus for these programs, so that he also sells the antivirus. ! Extrapolating to what has happened on the planet in recent years, how will the scientific, academic world react and not only when they find that according to this principle it was "developed" and "escaped from the Wuhan Research Laboratory" (funded by the same character[8]) and the C19 virus, for his pharmaceutical companies to sell to the governments a "so-called vaccine"[9]. Starting from the definition, we all found that this serum did not protect at all, did not create any immunity, on the contrary, those vaccinated transmit the disease and became ill, (even after the booster), realities that even divided the medical world in two. This is confirmed by insurance companies and even manufacturing companies, some of which do not insure against the disease and do not pay the insurance.

In the case of the lawsuit filed in the USA, the legal representatives of the manufacturing company stated that they will provide the information in 50 years, as this would take the company to prepare the evidence and present it to the court. (a premiere for the US judiciary!) How does Bill Gates now know that "After the Omicron wave passes, COVID-19 will be like the seasonal flu" [10](January 2022 statement), but he knows for sure that "In a few years, my hope is that the only time you really need to think about the virus is when you get your common vaccine against COVID-19 every fall, " of course provided by the factories he owns! - statement from 09.12. 2021!

Until the truth is found and the guilty will be punished, the global pandemic was used to change the paradigms and lives of these contemporary generations, but also of future ones, with a new lifestyle, with a "new reality", as the media

[8] According to information taken by part of the international press

[9] Vaccine definition "Biological product obtained from pathogens or microbial cultures, which is administered (by injection or by mouth) to a human or animal to create immunity against infectious diseases or for therapeutic purposes"; https://dexonline.ro/definitie/vaccin

[10] https://www.digi24.ro/stiri/externe/bill-gates-dupa-ce-trece-valul-omicron-covid-19-va-fi-ca-gripa-sezoniera-1801309- 13.01.2022

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

"intoxicated". "The virtual world to prepare for" the era of digital identity created through the blockchain".

Gradually man of these times "voluntarily renounces" the rights and freedoms that have been gained over centuries of human existence.

If at the beginning the use of this technology has all the "ingredients" and arguments to come to the aid of man, but it can guarantee us that in the near or distant future secure storage and management of digital IDs for both businesses and users will not be can deal with data security breaches, technology creating the possibility of controlling individuals by manipulating their digital identity (known as self-sovereign identity), in the so-called Access and Identity Management (IAM) market. And in the future, people who have become "undesirable" who may oppose the system of total control are literally eliminated by erasing their identity and expelling them from society, limiting access to health and food, to the extinction of some people. This seems like a sci-fi scenario at the moment, but let's remember that it was Jules Verne's submarine, Hollywood movies with the time machine, time travel and drones, etc.

Blockchain ID systems seem to involve storing digital identities on the blockchain. However, this is more than that, as the authors of the article point out, in 2018, for example, the World Food Program (WFP) used an Ethereum [11]-based ID system to provide humanitarian aid.

*Sovri*n is an open-source network that allows digital ID management, being created to "evolve the current system of isolated identities, endless passwords, and insecure databases", non-profit allows identity verification without problems and in a secure way for life. The Sovrin network consists of distributed server nodes that are hosted and managed by a number of trusted entities called Stewards. Each node contains a copy of the register, which verifies the validity of the accreditations issued within the network. By implementing Sovrin, organizations can avoid the regulatory burdens associated with storing huge amounts of data that, as I mentioned, can be easily stolen. GlobaliD is another platform concerned with

[11] The most widely used virtual currency blockchain is Ethereum, which includes changes that make it more flexible than the Bitcoin blockcain. Ethereum has its own cryptocurrency - Ether - but the developers have created many additional cryptocurrencies running on this blockchain. This platform has various types of use in the real world in addition to virtual money.- according to: https://kriptomat.io/ro/blockchain/ce-este-tehnologia-blockchain/; see also: https://www.technologyreview.com/2018/04/12/143410/inside-the-jordan-refugee-camp-that-runs-on-blockchain/

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

issuing self-sovereign identities. GlobaliD identities consist of a name and key data that defines who the user is, which may include conventional identifying information such as name, date of birth and address and more advanced identifiers such as biometrics, GPS data and social networking profiles.

Blockchain Reputation Scoring Systems

The use of the blockchain in the creation and storage of digital identities gave rise to the concept of an immutable reputation scoring system, which could be used by financial institutions and others to verify users. Shyft Network is a startup that is actively exploring a blockchain-based identity solution, enabling basic anonymity and anchoring KYC data[12]. In the business world, "credibility scores" reflect their reputation and level of trust. "Data is valuable, and individuals deserve to be compensated for sharing it." To this end, the Network provides users with an interface through which to view and manage interactions with their data, and to earn rewards from their distribution.

On the principle of rewarding computer games, Shyft ingeniously assigns "credibility scores" to users or businesses, and a public blockchain protocol will incorporate trust in data stored across different ecosystems.

Micro-payments based on Digital Identity (ID) and Subscriptions, which are still in their infancy, the blockchain offers enormous potential. The example chosen by cryptomat authors indicates the possibility of accessing articles on a paywall-type website such as the New York Times, without the need to register. Instead of handing over your name and email address to the publisher, who then stores them in a centralized database, you can access an article with a verified digital ID and then pay, in crypto or fiat[13], for what you consume.

Digital ID-based systems can be used to automate and pay for subscription services, whether they are physical products, such as household cleaning products,

[12] Know Your Customer (KYC) standards are designed to protect financial institutions against fraud, corruption, money laundering and terrorist financing. Based on this indicator, the bank may refuse financing, opening an account for that company.

[13] Fiat money is the currency of a country that its own government has declared as a legal means of payment, but which does not have coverage provided by a physical or other good. In other words, the value of FIAT money derives from the relationship between supply and demand, rather than the value of the material from which it is made.- https://www.financialmarket.ro/terms/bani-fiat/

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900
Issue 2/2022

or digital items, such as software as a service (SaaS)[14] and online learning materials.

Other disadvantages of this "distributed registry technology" are presented in the virtual environment in https://kriptomat.io/ro/blockchain/argumente-pro-si-contra-tehnologia-blockchain/ as follows: Although sufficiently flexible and powerful to support many exciting new applications and services, blockchain technology also has a number of disadvantages: - it is complex and new, which means that there are not enough software engineers trained in blockchain, which makes blockchain to be expensive. Currently, the most used blockchains are not suitable for large-scale deployment of applications and services. Bitcoin and Ethereum blockchains handle less than 50 transactions per second, but there are technological solutions on the horizon. However, limited scalability remains a significant disadvantage that compromises the performance of current blockchain applications.

Mining Crypto Proof of Work is known to be harmful to the environment because it consumes a lot of energy to improve each block of transactions, especially on the Bitcoin blockchain. Blockchains are reliable due to network redundancy, but all those nodes also contribute to power consumption.

Public key cryptography is a two-sided blessing that is deeply rooted in blockchain technology. Encryption secures the network, but users who lose their private keys may lose access to their private funds. Users have lost millions of euros simply by losing their private keys from their blockchain accounts, which confirms the volatility of cryptocurrencies and the risk not legally covered by any authority of any state in the world.

Even some of the advantages can easily become disadvantages, as follows:

Blockchain transactions take place without the approval or involvement of third parties, which makes them impossible to control by the institutional entities of the states. You can make a crypto investment without hiring an investment advisor. You can buy without the need for a bank to process your credit or debit card payment. You can borrow funds without having to pay dearly for a financial institution. Because you do not need the approval of banking directors or financial professionals, you can execute transactions in minutes instead of days or weeks.

[14] Software as a Service (SaaS) is considered to be part of cloud computing, a software licensing and delivery model in which software is licensed on a subscription basis and hosted centrally. (SaaS) is also known as "on-demand software" and web-based / web-hosted software.

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

This great advantage of using the open register function of blockchain technology, becomes a disadvantage when the qualified person, trained in vocational professions are no longer useful, becoming unemployed. The financial advantage in the absence of intermediaries (you can make as many blockchain-based transactions as you want without paying for a bank investor's ski vacation or a bank CEO's private jet) can become a risk if you lose your encryption keys without he still had access to his own funds, and there was no form of insurance against financial losses. Blockchains are owned and operated by users and the applications they use and do not need the expensive services of financial institutions. If these applications are attacked by hackers, so far there is no way to recover the lost money. The current reliability of decentralized peer-to-peer databases can become a vulnerability in the event of loss of these databases or theft of vital information for the company, personal health, etc., depending on the area where they are activated. Copies of blockchain transactions are stored on hundreds or thousands of network nodes, transactions are checked before being added to the blockchain, and secure, because in a peer-to-peer network, there is no single point of failure.

In the case of a conventional database, the failure of a single server can take all your data offline and then you live with the hope that the last backup was as recent as possible. This does not happen in the case of the blockchain, where the whole database with vital information and a lot of money can disappear, which you can no longer recover. Even if each blockchain uses a consensus mechanism to validate transactions before they are added to the database as blocks, which, through these consensus mechanisms, would make it impossible for hackers and thieves to enter fraudulent data, however, there is no security against the loss of the entire database, not to mention the costs of building these blockchains and paying for protection mechanisms (based on the computer antivirus model). Non-stop running of blockchains, initially an advantage, it generates high costs of resources, electricity, and dependence on technology affects human health and leisure, as the network is always ready for transactions, and man becomes a robot who gives up his life, freedoms, technology rights, although it should be the other way around.

Conclusions

What is Blockchain? American comedian Stephen Colbert says "it's gold for nerds." Well, nerds are now the popular kids in the block, and blockchain technology is becoming one of the biggest temptations for finance and digital innovation since the creation of the Internet. A phenomenon considered first exotic,

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

then experimental, cryptocurrencies have recently become one of the top priorities of regulators, whether we are talking about governments, central banks, supervisors, the International Monetary Fund or the G20 summit agenda. The positions are not aligned: some send warnings or opt for a ban, others express their intention to create a favorable legal framework. However, the importance of blockchain technology, which is at the origin of cryptocurrencies, is unanimously accepted, being recognized for its potential to radically transform production systems, business models, the labor market, etc., but also the way of governing.

The potential of blockchain, but also of machine learning and Al (artificial intelligence) in ID (digital identity) systems, blockchain-based identity management is a fascinating area of exploration for years to come, with even more explosive and futuristic solutions. which is to come on the "production line". The most common use of blockchain technology today is cryptocurrency. But there are many more use cases for this, from monitoring the supply chain and e-voting (electronic voting), to tracking royalties, data security, etc. Humanity will have to adapt, trying, without hindering technological evolution, to use it ONLY IN THE INTEREST OF HUMAN BEING and not against him, just to make his daily life easier for automated activities, in relation to state authorities, banks, any service provider, without wasting time at the counters and pollute the environment with documents in letter formality.

Reluctance to novelty is explicable, especially in the case of authorities that are structurally conservative and inertial. The rise of cryptocurrencies, whose value has risen sharply and rapidly, has been associated in public discourse almost exclusively with speculative investments, implicitly insecure and possibly illegal. However, the vast majority of states leave the regulation in a gray area: no ban, no legal framework adopted. In some countries, even with remarkable technological development, such as South Korea (it is one of the first countries in which cryptocurrencies have been widely adopted), the messages are contradictory. For now, European Commission officials are ambiguous. They appreciate the opportunities generated by blockchain technology, but are wary of regulation, emphasizing the risks it could entail. In other words, for now, the attitude is waiting.

The US and Canada have a similar position, where regulators and supervisors closely monitor everything related to cryptocurrencies, but without making a clear statement. Skepticism about new technologies is explicable, especially since this fourth industrial revolution, as it was called, is not a linear and relatively predictable one like the previous ones, but exponential with an extraordinarily rapid transformative power.

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

Basically, it's a paradigm shift that is still seen as a bet[15]. Until then, however, the reactions of the authorities in the world are different, from banning or indifferently accepting the technology of distributed registers - blockchain,[16] (virtual currencies are not legal in countries such as Belgium, Czech Republic, Denmark, Germany, Italy, Slovenia, Spain, Poland, Croatia, Luxembourg, Finland, warning in other countries, Ireland, Greece, Copper, Latvia, Lithuania, Slovakia, Hungary, Netherlands, Austria, UK, technology is active in Sweden, but not currency, Estonia is currency payment alternative, but not illegal, in France users are required to complete a statement to the Anti-Money Laundering Agency.)

Ethereum is already running "smart contracts", is used as a platform for many blockchain-related applications, most decentralized applications, especially financial decentralization applications, are based on Ethereum private blockchains, which is also in the top of the preferences of corporations seeking to implement token-based savings.

For example, a company might implement a loyalty program in which customers receive Acme coins with every purchase. Then there may be a gift shop where Acme coins[17] can be traded for various benefits. The company could create a network of companies that also accept Acme coins, giving chips a "de facto" value, although they cannot be exchanged for euros or dollars. Each participant has access to a blockchain, but each block in the blockchain can in turn represent another blockchain, so there is communication between different areas.

---

[15] https://www2.deloitte.com/ro/ro/pages/tax/articles/inceput-de-capitol-reglementatorii-nu-mai-pot-ignora-criptomonedele.html

[16] See Positions expressed by European states on virtual currencies - https://www.bnr.ro/Pozi%C8%9Biile-exprimate-de-catre-statele-europene-cu-privire-la-monedele-virtuale-12132-Mobile.aspx

[17] Acme in Greek means: the peak of development - in 2009, the President of Kazakhstan, Nursultan Nazarbayev, called on Tuesday for the creation of a single global currency, called "acmetal", considered by the Kazakh leader as the best means to combat the current financial crisis, we should create a single world currency under the auspices of the United Nations, "Nazarbayev said before the opening of a major economic conference in the Central Asian countries." We need to move to a completely new monetary system based on legitimacy. , and in a single monetary system "Acmetal", the name of the currency, is a combination of the Greek word "acme" (the peak level of a development) and "capital". Nazarbayev believes that by establishing a single monetary system, humanity could replace the word "capitalism" with "metalism" to better define world finances. https://m.hotnews.ro/stire/5480085

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

Thus, the company that implements this concept becomes a reliable company, which competes with part of a "blockchain" version of its own company. So the top five benefits of blockchain technology are: protecting rights, creating a distributed economy, eliminating taxes, protecting and controlling data, and compensation for manufacturers. Although technology offers many advantages and solves many problems, it cannot solve all problems. People should not only trust other people, but also mobile devices, robots or vehicles, which should work for them and not the other way around. Although we are at such an advanced technological stage, only 40% of the world's population is connected to the internet. So in recent years, people have been talking more and more about social media, robotics or artificial intelligence, and too little about blockchain technology and cryptocurrencies.

Another authoritative opinion, that of the CEO and co-founder of Modex, Mihai Ivașcu[18], makes a careful x-ray of this technology: “after more than ten years since the advent of blockchain technology, many people still confuse its. "Cryptocurrencies were the ones that took the word blockchain out of a highly specialized IT sphere and made it known to the whole world. Hence the confusion between the two elements, blockchain and cryptocurrencies. The solution initially developed overshadowed the technology itself." . Thanks to its suite of features, blockchain can become an invisible infrastructure that protects digital information and ensures absolute authenticity. It can become an ideal foundation for many industries and businesses. "

The banking industry is using blockchain technology to "reinvent" its outdated systems and procedures, increase the security of databases and transactions, increase speed and save a lot of money while providing superior customer service " thus generating added value to the services they provide.

"Due to its high degree of flexibility and its business-friendly properties, the blockchain can transform a wide range of industries: retail, tourism, cybersecurity, the real estate industry, the supply chain industry, education." "Blockchain can restructure the healthcare system by bringing patients to the heart of the healthcare ecosystem, giving them control over the data."

[18] How did the blockchain, the technology behind Bitcoin, become more valuable than cryptocurrency?
by Răzvan Băltărețu HotNews.ro Tuesday, June 15, 2021, https://www.hotnews.ro/stiri-pagini_de_cod-24861060-cum-ajuns-blockchain-tehnologia-din-spatele-bitcoin-fie-mai-valoroasa-decat- cryptocurrency.htm

Annals of Spiru Haret University.
Economic Series
Since 2000
ISSN:2393-1795 ISSN-L:2068-6900

It is this "data control" that the author quoted above acknowledges that should sound the alarm about how blockchain technology is used and more. However, it is certain that much will be written on this subject, with divergent opinions, that only from these contradictory opinions are often born the brilliant ideas, which save humanity from extinction, in the classical, etymological sense of the word!

In short, blockchain technology is the beginning of a new digital age, an era that can solve many of the problems we face, or an era that can take us even further away from what "humanity" means in the etymological sense of the word: „all people, community of people, humanity, but also a feeling of goodwill, compassion for the misfortunes of others, kindness, humanity, humanitarianism”[19].

References:

[1] https://www.todaysoftmag.ro/article/2469/tehnologia-blockchain
[2] https://www2.deloitte.com/ro/ro/pages/tax/articles/criptomonedele-si-prima-reglementare-specifica-din-legislatia-nationala-prin-codul-fiscal.html
[3] https://www2.deloitte.com/ro/ro/pages/tax/articles/inceput-de-capitol-reglementatorii-nu-mai-pot-ignora-criptomonedele.html
[4] https://www.wall-street.ro/articol/Finante-Banci/257928/reglementare-criptomonede-blockchain.html#gref
[5] https://www.hotnews.ro/stiri-pagini_de_cod-24861060-cum-ajuns-blockchain-tehnologia-din-spatele-bitcoin-fie-mai-valoroasa-decat-criptomoneda.htm
[6] https://www.bnr.ro/Pozi%C8%9Biile-exprimate-de-catre-statele-europene-cu-privire-la-monedele-virtuale-12132-Mobile.aspx
[7] https://www.etoro.com/ro/news-and-analysis/etoro-updates/5-tendinte-cripto-de-urmarit-in-2022/
[8] https://www.leadtech.ro/blog/tehnologia-blockchain
[9] https://www.technologyreview.com/2018/04/12/143410/inside-the-jordan-refugee-camp-that-runs-on-blockchain/
[10] https://www.digi24.ro/stiri/externe/bill-gates-dupa-ce-trece-valul-omicron-covid-19-va-fi-ca-gripa-sezoniera-1801309
[11] https://www.financialmarket.ro/terms/bani-fiat/
[12] https://dexonline.ro/definitie/umanitate

[19] From lat. humanitas, -atis, fr. humanity ..- https://dexonline.ro/definitie/umanitate