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Role Of Blockchains In The Development Of The Various Sectors

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ABSTRACT

In the present era where we all want privacy and things to be confidential. There is nothing that the web owners don't know about us. This is where blockchain comes into the act. A blockchain is a digital record of all transactions that have been executed among parties. Once the information is entered it can never be erased, even not by the owner. The best part of the blockchain is that it helps to maintain anonymousness. Not only this, blockchain at present is used in many areas like finance, transactions, commerce, judiciary, gaming, and lot more. Blockchain promises benefits like identification, credibility, transparency, and so on. The current paper focuses on the application of blockchain over various sectors of the economy and whether its application has been successful or not.

KEYWORDS: Blockchain, Cryptocurrencies, Web, Anonymous, Decentralized.

1. INTRODUCTION

Blockchain is basically an immutable ledger that allows the process of recording transactions and every transaction is verified by the consent of the majorities of the participants in this system. Blockchain is also used in tracking of assets which can be intangible or intangible that is anything virtual can be tracked and traded on a blockchain network. It can be said as the heart of most of the cryptocurrencies.

ADVANTAGES OF BLOCKCHAIN

ENHANCED SECURITY

Blockchain improves the security as the data entered can't be altered and it is encrypted end to end, the it prevents frauds and any unauthorized activities also the data on the

blockchain are stored across a network of computers that makes it nearly impossible to be hacked.

DECENTRALIZED STRUCTURE

The biggest problem of the present era world is there is someone out there acting as a leader in the system that is he is the head of the ecosystem two parties can't communicate directly they have to send the information to the head and then head sends the message to the party. Blockchain system enables sharing of the data within an ecosystem of business where no single entity is in-charge. This improves confidentiality in the information as well.

REDUCED COSTS

Blockchain helps in the reduction of the cost for organizations by eliminating middlemen that have traditionally provided the services that blockchain can do.

SPEED

By eliminating intermediaries and manual processes blockchain can complete a transaction faster than the conventional method. How quickly a process can be completed depends upon a number of factors such as data traffic.

TRACEABILITY

Blockchain helps to trace the origin of transactions and any virtual identity. Blockchain helps to trace the whole trail of a document or digital identity.

Blockchain have many other advantages like efficiency, speed, and so on but still, everything comes for a cost and so does the blockchain it also faces certain disadvantages like the high cost of implementation of blockchain once implemented then it will prove to be cheaper also it is inefficient to have several users validating the same operations not only this blockchain is not environment friendly as the mining process costs a huge amount of electricity. Still, the benefits of blockchain cannot be undermined.

2. LITERATURE REVIEW

Supporters of blockchain believe that it is the future of our economy and it will help us to grow immensely hence a lot of research and study has been conducted in the field of blockchain.

Michael Crosby, Nachiappan, Pradhan pattanayak, Sanjeev Verma, Vignesh Kalyanaraman (2015)

Conducted a study on blockchain technology and some compelling specific applications in both the financial and nonfinancial sector.

DAVID FREUDEN (2019)

With his research article “Global Blockchain Adoption: Which Countries are Leading the Charge? Discuss in adopting of blockchain technology by various countries.

GUANG CHEN, BING XU, MANLI LU & NIAN-SHING CHEN (2018)
Conducted research in exploring blockchain system and its important application in education.

3. OBJECTIVES OF STUDY

- To understand the relevance of blockchain
- To know about various sectors where blockchain technology has been implemented
- To understand whether the implementation of blockchain has positive effects or negative effects
- To review the overall effect of blockchain in various sectors.

4. NEED FOR STUDY

Since the technology around us is evolving at such a rapid pace it is necessary to understand whether the technology that we have adopted is reaping us profits or not. Blockchain technology is not a latest technology but its use has been recently gaining popularity. You must have heard about Bitcoin and Ethereum, there are currencies that run on blockchain technology and if you will look at the chart of prices of these currencies then you will notice that they have recently gained a lot more than they have gained in prior years. The major motive of the study is to make it sure that implementation of blockchain technology in various sectors is proving to be efficient and cost-saving in the long run.

5. RESEARCH METHODOLOGY

The research paper focuses on blockchain technology adoption in various sectors by different nations like Chile, Delaware, and so on. This study looks in-depth at the year in which blockchain technology is adopted in the country/state and any significant change in any of the economic indicators like time to provide service, cost-related factors related to the sector in which it has been adopted.

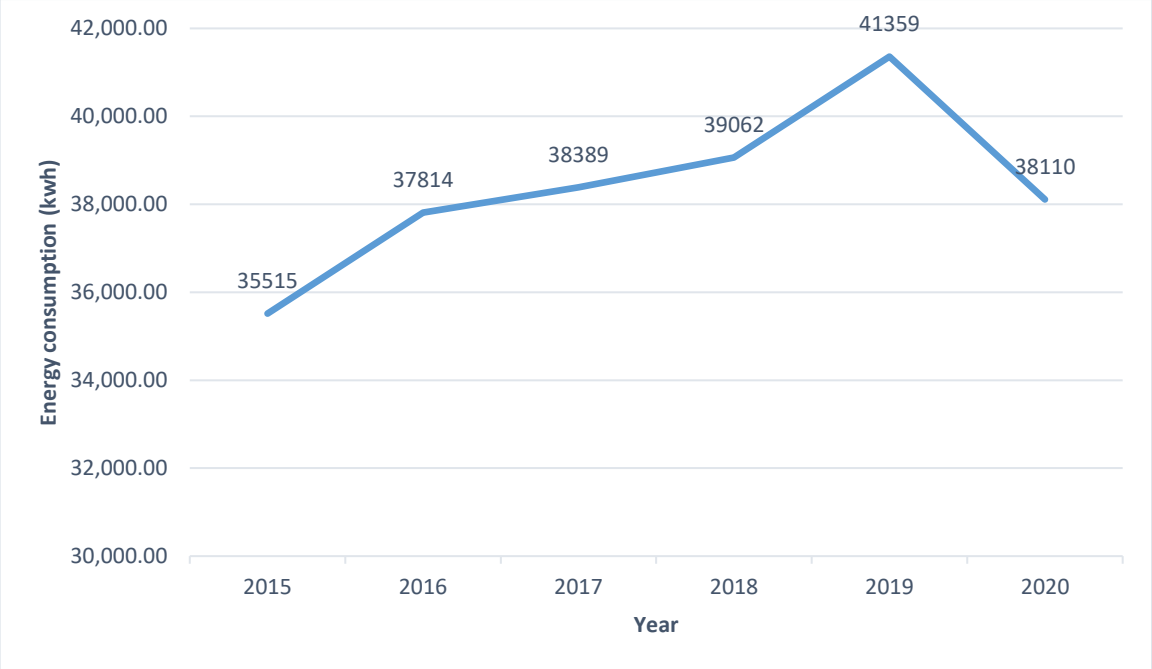
6. HYPOTHESIS

H0) Sectors getting no benefit after adopting blockchain technology.
H1) Sectors getting benefits after adopting blockchain technology.

7. DATA ANALYTICS

ENERGY SECTOR

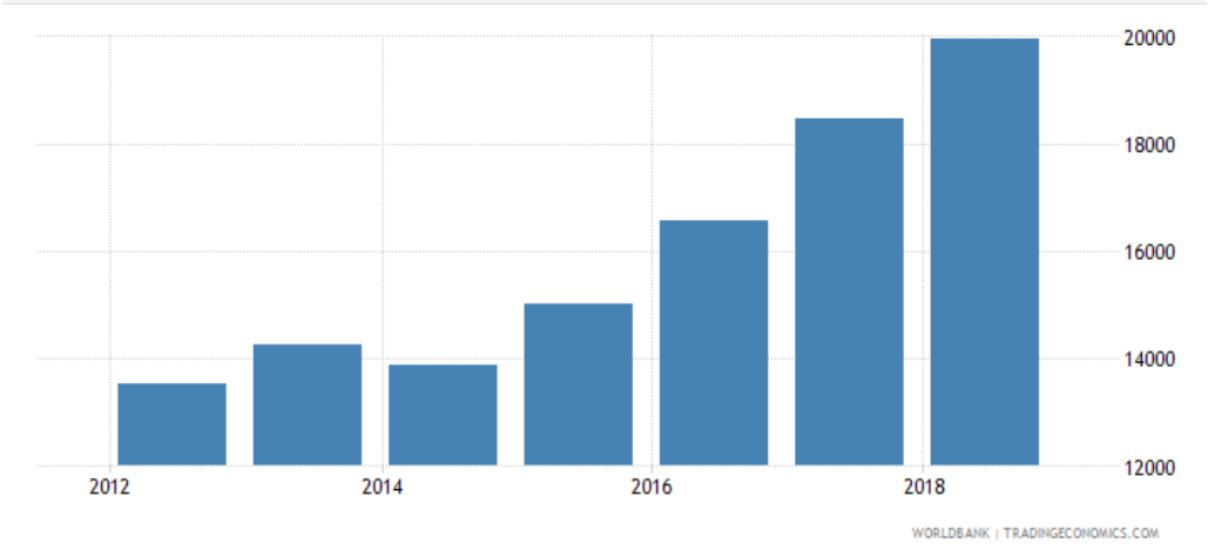
On April 19th Chile started using blockchain technology in the energy sector to create accountability and traceability in the sector.



As you can see in the chart that energy consumption in Chile has been increasing over the years but after the adoption of blockchain technology the consumption has declined, it may be due to better traceability of electricity and hence reducing electricity theft therefore it can further be concluded that the adoption of blockchain has proven to be beneficial in the energy sector.

BUSINESS REGISTRATION

At the end of the year 2017, Estonia adopted blockchain system called the 'E-Resident'. This program is aimed at helping the citizen to get registered the business in Estonia by becoming digital citizen.



As it is evident from the graph that the adoption of blockchain has improved the situation of business registration even more. The registrations were increasing year by year and the adoption of blockchain has led to the same.

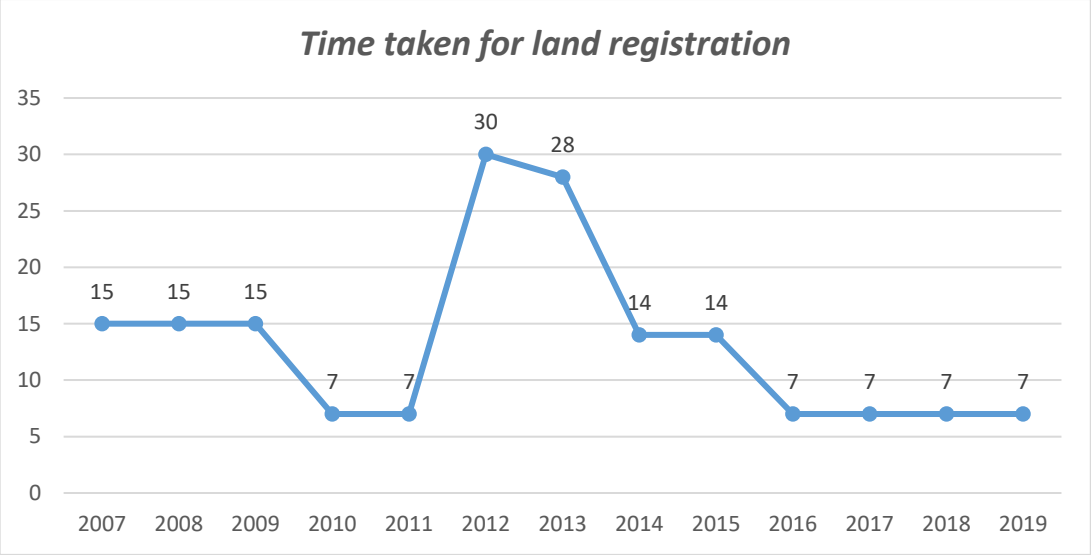
Also, in May 2018, Delware house had passed a regulation that allowed registration of business and trading on blockchain platforms. The following table shows business entity formation form the year 2018-2020. (source- https://corp.delaware.gov/stats/)

	2018 CY	2019 CY	2020 CY
LLCs	157,142	165,910	180,376
LPs/LLPs	12,432	13,513	15,348
Corporations	44,669	45,405	51,747
Statutory Trusts	1,762	1,761	1,956
Totals	216,005	226,589	249,427

Looking at the data it won't be wrong to conclude that blockchain has led to improvement in business registration. This improvement may be due to smooth processing and less registration cost.

LAND REGISTRATION

In the year 2017 Sweden adopted blockchain technology for land registry. This move was supposed to increase securities, transparencies, and digitalization. Matt Snall says "As a state, we must ensure that citizens still trust us tomorrow. Because otherwise they will trust companies like Google and use a future land register app that they are surely working on already." The data for the following table has been collected from The World Bank Data website https://data.worldbank.org/indicator/IC.PRP.DURS?end=2019&locations=SE&start=2004&view=chart



As you can see in the graph that prior to the adoption of blockchain the time for land registration was very ambiguous. It was 15 days for some years and then it reduced to 7 days and it may have become difficult to maintain this level so it was again increased and then it crossed the previous level of 15 days and it reached 30 days and from there the steps were being taken to reduce this number and you can see after the adoption of blockchain this level is constantly 7 days.

BANKING

Blockchain also has the opportunity in disrupting the $5trillion+ Bank industry by disintermediating those key services that banks provide, from payments to clearances and settlements. Credit Suisse, partnered with the New York-based startup Paxos to use the Blockchain technology in March 2020. Also, JP Morgan Chase entered the Blockchain space with the JPM Coin, which was intended to use to facilitate transaction between institutional accounts. Goldman Sachs and Citigroup have also experimented with the Blockchain. This use of blockchain has synergized the banking sector.

There are many other sectors where blockchain technology is used like the insurance sector, aerospace and defense, loans and credit, Industrial Infrastructure, Construction, Architecture, and Building.

8. TESTING OF HYPOTHESIS

As evident from the above data analysis, it has been crystal clear that the adaptation of the Blockchain Technology led to a positive impact on the sectors, and hence it would not be wrong to say H1 is true.

9. CONCLUSION

Adoption of Blockchain technology has led to positive impact in many sectors like banking, insurance, land registration, business registration, energy sector and so on. The advantage of adopting blockchain includes cost-efficient, time-saving, growth, and so on.

Many companies have also adopted blockchain technology like JP Morgan, Credit Suisse and so on. To Conclude we can say that adoption of blockchain can help following sectors-

- Banking
- Real Estate
- Stock Trading
- Crowdfunding
- Accounting
- Insurance
- Travel & Mobility
- Hospitality
- Industrial IoT
- Construction, Architecture & building
- Energy management
- Healthcare
- Claims management
- Research & Clinical trials
- Voting
- Government and public records
- Education
- Government Grant
- Law enforcement
- E-commerce
- Entertainment

10. REMARKS

Innovation is the core for the development anywhere and blockchain technology is one such innovation. Blockchain technology is certainly not a new one but its implementation surely is. At present blockchain technology is used in a large number of sectors and it has produced more than satisfactory results also. It will not be wrong to say that blockchain technology is going to be the future of how things are done. You all must have heard about cryptocurrencies and what if I told you that a digital world is already in making where we can meet our distant friends, enjoy the personalization, and where we can feel their touch also. With the help of blockchain this has been made real, all you need is a virtual reality set and then you can be part of the community. You can visit websites of upland and decentraland to enjoy the same. Adoption of blockchain still requires considering some facts and figures before adopting it. In short term, the adoption may seem expensive but the benefits in long term overweigh the cost in short term.

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