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Government Implementation of Block chain

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ABSTRACT
The primary purpose of this study paper is to explore if the Blockchain technology may be used inside government services to build a smart government. This article discussed the beginnings and the possible applications of Blockchain across numerous sectors, as the underlying technology of cryptocurrency called Bitcoin. The democratic governance system was best suitable for Blockchain adoption. Although it fails to tackle major infrastructure issues, concerning healthcare, taxation and other basic services, it was considered the governmental regime that would best benefit from innovative technologies like Blockchain to deal with public service provision due to its aim of creating trust and transparency with its citizens. This paper concludes that while Blockchain is hype because of its innovation and promises, it is smart to approach it cautiously in government organizations since this technology still has to be proven on a wide scale and is worth a huge effort and expenditure.

Keywords
Bitcoin, Block chain, Democracy, Governments, Services.

1. INTRODUCTION

1.1. Block Chain the Technology
The first ever pure Peer-2-Peer (P2P) electronic currency system dubbed Bitcoin was introduced by an anonymous individual or group called Satoshi Nakamoto in November 2008, through a whitepaper published online. We knew little that this white paper would, ten years later, become the foundation of a new technology today described as revolutionary by its potential to change people and organizations. Nakamoto called the Bitcoin systems a purse P2P system since transactions were made to facilitate and verify that transactions took effect without the need for an intermediary financial institution, whether it be a bank or a cash transfer service. In order to undermine the dominance of the large financial services over the transfer industries, however, this system would first have to resolve the dual expense problem and develop confidence between the participating parties in financial transfers [1-3].
The Bitcoin system consists of a layered, bottom-to-top architecture. Stacks comprise: Blockhain, Protocols, Tokens, Apps and Services. The first layer, Blockchain, is located at the bottom of the stack. The concern that a digital currency will be applied centers around the uncertainty that money is spent only once or more, and that is the word double spending. There was no tangible evidence of double expenditure before the Bitcoin system. Enter Blockchain, which has exactly been created to ensure that the cash is used in a single transaction [4].
A Blockchain is a distributed public directory that records the final result of a sequence of P2P transactions that occurred in particular periods. The miners, a.k.a. nodes of whom there are now 5,700 on the network have validated and authenticated all these transactions by resolving complicated mathematical issues, by encrypting the sophisticated hacks and grouping them into blocks that are time-set as proof-of-work measures. Each block is added to the distributed book at the end to form a block chain [5–8].
As Nakamoto says, the more confident it is and the more resistant it is to be attacked or hacked, the longer the chain the lengthiest of which is now 400,000 block.

1.2. Governments
There are four different kinds of government: Democratic, Monarchist, Communist and Dictatorial in contemporary times. In view of its basic notion of trust and openness between governments and citizens, this portion of the paper focuses on the structure and developing divisions between governments and citizens under a democracy without examining a thorough history.

1.3. Democracy
Democracy is a political system that many countries seek to achieve stability. More can be categorized as democracy:

- Direct democracy, in which each citizen of the country is entitled to take part in the development decision-making process.
- Representative democracy is a system which enables the public to pick representatives from different regions of the country to establish, on their behalf, a government which will be responsible for national political issues and make legislation. This system is the most frequent political system in nations with Democratic identity. Presidential or parliamentary democracy can be representational.

1.4. Republic
The most proximate depiction of a democratic government can be viewed as a Republican administration. Nearly 46% of the global governments are part of a republican political system. Elected leaders such as presidents, mayors and state or municipal legislators in this kind of governance are allegedly the people who elected them [9,10].
A Republican government can take different shapes so long as the main idea is intact.
Republican governments can be classified as:

- Crowned: also known as the Constitutional Monarchy, a Republican administration in which the constitution imposes the written rights and laws of a monarch.
- Federal: This divides the authority and authority of the central Government between the States, territories or provinces responsible for monitoring their internal affairs and a number of constituent regions.
- Parliamentary: Also known as a government of parliamentary democracy, it works under the authority of a parliament which is obliged to choose a government after elections like Prime Ministers, Premiers and Cabinet Ministers. Therefore, both the people and the

parliament would be required by the elected Government. There are also two subtypes for a parliamentary government: a parliamentary government very much likes a parliamentary democracy government, and a parliamentary monarch that is different from the previous two types only because a monarch is head of parliament.

1.5. Monarchy

The Monarch administration is by far one of the world's oldest and most recognized system of government. The government of the European countries of the 5th to 15th centuries is known as the type found in mediaeval times.

The mediaeval monarch government, today called the Absolute Monarchy, holds the ultimate authority of the state and has the final say in all the government issues. The head of state, who was not elected by the people and who was usually a royal descendant. But, although in some small nations, such a monarchy no longer exists and has been replaced by a constitutional monarchy government. Other types, like duchess, great duchies, elective monarchy and non-sovereign monarchy are in addition to these monarchical government systems.

1.6. Communist

An economic and political system of communism was allegedly originated in the second half of the 19th century by Karl Marx and Friedrich Engels. In 1848, the Communist Manifesto was written together.

This system consists usually of a strong authoritarian party, which controls the state and the economy. The idea of communism was to remove privacy and equally distribute the wealth of the state between the people. Many countries that claimed to follow this system, however, are not regarded as true communists.

1.7. Dictatorship

The dictatorship government, one of the least favorable political systems, is an authoritarian political system where only one person has the ultimate power to rule the government without an authority that could hinder his power.

While the ruler is usually advised, the final decision in any state or business is in the hands of the ruler. Usually, this system is shaped by a military dictatorship, in which the army and its different forces control all the resources of the country. The great disadvantage of this system is simply that the common people have no say in any decision taken by the government, which may lead to the abuse by the powerful person of the country's resources.

1.8. Disappointment in Services Delivery

Over the course of the past ten years, both provincial and federal governments of Canada have not succeeded in providing viable solutions to several immediate concerns such as the federal national and economic defects and provincial education and healthcare. Additionally, the services provided are considered to be the most used daily services which have not been reclassified for many years, such as tax returns, official identification, and vehicle registration, i.e. services requiring Citizens-2-Governments (C2G) or Government-2-Citizens (G2C). Although some services, such as Employment Insurance (EI), the Canada Pension Plan (CPP) and Old Aged Security (OAS), have been migrated by the Canadian government to the online platform as part of its e-services initiatives, many of the most important and demanding services are still being delivered in person. In 2015-2016, the federal Canadian government spent 17% of the total governmental costs, amounting to Canadian Dollar (CAD) 50 billion, on operating its departments and services. If the Canadian government streamlines basic services for citizens and thereby reduces wait time and lineups, this figure can be significantly reduced [8].

These are just some of the many cases that show why public trust is failing and why new, innovative solutions must be put in place to remove mistrust between governments and citizens. This confidence can be enhanced and maintained through a technological platform built on confidence and transparency between all network members, such as the Blockchain. It can also help to address many of today's democracies' challenges [11].

There's a concept that Blockchain is suitable for a democratic intelligent government, in order to solve the type of problems shown above. Due in particular to the trust that democracy builds between people and their government, the current government structures can be adapted to adapt technological changes that can be integrated into government official digital communication channels and IT structures in order to build the basis for a smart-government based on Blockchain [12,13].

1.9. Block chain Enable Smart-Government

To date, we have described the technology from Blockchain, examined the best-suited Government System for Blockchain and looked at existing technology, e-government and Blockchain literature and theories. We also looked at the effect and potential of the trust on new technologies that can lead to better relations between the government and citizens. Although we have been clarifying the mechanisms that govern governments and the use of technologies, this paper remains focused on the main research:

How the trust machine of Blockchain is able to build intelligent government and what is the best approach for the complete adoption of the intelligent government of Blockchain?

We must breaking down this fundamental issue into three sub-questions in order for us to have a better understanding and comprehensive conclusion:

- How can Block chain be utilized to set up an intelligent administration?
- What is Blockchain's best plan for complete government adoption?
- How's the Blockchain-powered intelligent government's "complete adoption?"

To reply to the issues mentioned above, we will look into the instances of Estonia, Georgia, Sweden, and Delaware State, where governments have effectively adopted and implemented digital technology in their respective countries and succeeded to build trustworthy e-government systems.

2. LITERATURE SURVEY

R. Beck et al. presented in the article that the underlying Bitcoin blockchain technology recently became prominent as a method to implement distribution-free, trust-free networks, where the underlying blockchain ensures economic transactions. We are still at an early stage and so we need a greater knowledge of how and what possibilities and problems the blockchain potentials may be achieved. In a design science approach, we have built proof of the concept prototype which is able to replace an analogue pre-paid punch cards solution based on a trust-based coffee shop payment solution. The example gives a starting point for evaluating the merits and shortcomings of blockchain technology by replacing a trust-based transaction system with a trust-free one. We believe that a safe, trust-free blockchain transaction might replace many of the present trusted transaction systems, but that problems of scalability, costs and volatility in the currency of transactions remain obstacles [14].

J. Melitski et al. presented in the article that Culture and technology management in a global world are two of the main challenges facing companies. Increased organizations work in unpredictable, networked, decentralized contexts, which have become important to the implementation of organizational missions through acceptance and usage of information technology. This work began by studying behavioral theories, technology adoption, and organizational culture and then developed a model for considering technology adoption in public organizations. In addition, it looked at the effect of organizational culture on individual propensity to embrace technologies. The research was based on the replies of government, non-profit and social services professionals from all across the United States online surveys. The study revealed that individual perceptions of corporate culture and the readiness to accept technology exist. Finally, the limits of study design were addressed and future research proposed [15].

2.1. How Block Chain can Help Create a Smart-Government

In this paper, despite the problems that existed in democratic governments and the lack of public trust and services, political malfunctioning and information coverage, the system of democracy was suggested to be ideal for adopting the idea of a smart government. Integration with Blockchain in government organizations, especially in establishing public trust and delivery of services, can assist resolve many of these difficulties [16].

2.1.1. Block Chain and Government Transparency

The implementation of a technology, like Blockchain, may assist inculcate trust and transparence in government. As the exhibitions of political corruption and unchecked government expenditure across Canada and the strict management of publicly available information in Russia have demonstrated.

As a smart government, officials and politicians show clearly their goals and openness for every government activities, expenditure and policy and legislative changes. A recent example of government transparency is that the new US administration of Donald Trump has removed the MAR-A-LAGO (Mar-A-Lago) access records to limit the sharing of public information on the Website of the White House. The inclusion of the distributed block leader of Blockchain would prevent politicians from attempting to limit access to public data as the ledger of Blockchain is tamper-resistant, i.e. cannot simply be modified or shot.

2.1.2. Block Chain and Services Delivery

The provision of public service is, without a reasonable doubt, a tremendously complicated topic which cannot be fully discussed in this article. However, Blockchain may be utilized in some ways to turn existing e-government institutions into intelligent administration.

The efficiency, speed and safety of simple government services affecting the majority of citizens, such as car entries, changes to the name or address or issuance of legal identifications, are more important if the data has been moved from centralized locations across different government agencies and stored on a distributed network shared between all. Simple government services are more effective.

2.1.3. Best Strategy for Full Adoption of Block Chain in Government

McKinsey & Company has released an essay in recent months on Using Blockchain to Improve Public Sector Data Management, a world-class management consultancy. This post offered a vision of developing a Blockchain strategy for government adoption comparable to this paper's suggestions.

McKinsey & Company suggested to governments to use their time and resources in order to build a main data depositary that is decentralized and distributed across governments, allowing them to access citizens' data on a one-time basis, because the data that government organizations possesses while keeping their individual silos about citizens from the frequent interaction of the year. This proposed repository may be made accessible to the public and private keys that citizens have to pick from on a highly secure Blockchain leader, so as to keep the data confidential.

3. DISCUSSION

This study investigated how intelligent government systems are being developed utilizing Blockchain technology. We have determined the government kinds that are most prone to using this technology, having defined and recognized the purposes of Blockchain. The literature study underlined the relevance of confidence in organizational transformation, the acceptance of e-government and Blockchain adoption. A review of four distinct governments that Blockchain has pursued to better its e-government services has demonstrated how this technology has been implemented to date.

Delaware is seen as the goal of the United States. More than one million Delaware firms now operate, and there are also at least 65% of the existing US stock exchange traders. Furthermore, 70% of the existing Fortune 500 firms are projected to be headquartered in Delaware [17–19].

Delaware has recently announced plans to incorporate Blockchain via a partnership with Symbiont, a smart securities firm, into its integration procedures [20–22]. Although still in its early stages, this Initiative is intended to reduce the cost of the existing registration process by applying smart-contracts based in Blockchain, in addition to the automation of voting rules by shareholders, to automate processes such as corporate filing, sharing registers, bylaws, etc.

In order to establish a digital fiat of their existing currencies, other Governments, like as the British and Canadian, are also pursuing hybrid projects with their local financial institutions and Fintech businesses. All of these factors indicate clearly that governments recognize the benefits and benefits of Blockchain:

- The whole system and infrastructure of a country and
- The interaction between the government and the citizen through its transparency leading to a reliable relationship and increased prosperity for the country.

4. CONCLUSION

Based on the available research, we can carefully conclude that while Blockchain is a very promising technology designed to revolutionize the lives of millions, if not billions, of people worldwide, it is still very early to fully imagine how Blockchain would be deployed globally, like the Internet, to take full advantage of its potential. Several constraints might impact the process of Blockchain adoption within present government functions, including:

- New technology adoption is generally not as straightforward within government as in the commercial sector because of the scope and budgetary problems to be addressed;
- Government pilot programs likely to fail because of unaccounted situations or political intervention;
- The workability of governmental services or initiatives, including the use of technology, must prove necessary to the public, in order to make progress;
- Legislation, bureaucracy and privacy issues can be traffic blocks that stand in the way of government use of technology.

Despite all this, Blockchain is a technology with a great government potential. It can help less developed countries to take advantage and eventually reach the 21st century with this breakthrough digital technology.

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