

Report On Blockchain Technology

Analyse the recent use of Blockchain Technology and develop a strategic plan for the Case Company



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Executive Summary

The key purpose of this report is to collect information about the recent use of blockchain technology and then propose a five-year-long strategic plan for G&C Mutual Bank to expand its business further. This study team has concentrated on blockchain technology and its various uses across the industries. After studying the topic actively, the team has accumulated a big amount of information about the blockchain technology and learned many things related to it. The blockchain technology is being used in the diverse sectors for diverse reasons; however, some relevant uses are discussed in this report, such as managing distributed cloud storage, digital identity, and voting. Further, this report has discussed the benefits of using blockchain technology, particularly in the financial organization like G&C Mutual Bank. The key factors of using blockchain in financial services include cost reserves and effectiveness; competing with start-ups; and innovative business models. This report has also identified many advantages of using the blockchain technology. For example, it holds enormous prospective for facilitating advanced money transactions and also cross-border currency transfers. It offers protection throughout the verification of peers, which distribute encryption, virtual currency, as well as the hash generation of value. Furthermore, this report has identified some disadvantages of using blockchain technology. Afterwards, this paper has discussed the ethical, social and legal issues while implementing the blockchain technology and finally, it has provided some recommendations for using the blockchain technology to the case company.

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1 Introduction

G&C Mutual Bank is located in Sydney, Australia, which is a medium sized monetary organisation that was founded approximately 10 years before. G&C Mutual Bank launched as the people bank in rural New South Wales in order to serve retail clientele. At present, the Bank has both retail and business customers, moreover, has different retail area offices surrounded by New South Wales (NSW) as well as online business operations. The Bank is currently exploring alternatives to expand its business in the other Australian States and the Oceania region, as well as enlarge its e-commerce activities in the subsequent five years. As a component of this business and e-commerce extension plans, the business needs to concentrate on some of the endorsement and other technological setbacks that it has appeared throughout the last few years as it was executing its online business model. Consequently, it needs to consider that the new appliances as well as technologies that will be utilized to reinforce its online business, will also resolve some existing dilemmas.

G&C Mutual Bank has grown a recent interest to blockchain technology plus its diverse utilization in the e-commerce business. As the Head of ICT, it is my responsibility, assigned by CEO of G&C Mutual Bank to investigate the technology and variety of appliances that utilize the blockchain technique as the principal technology so that my organization can consider whether to adopt the technology, and further writing a report. This report will concentrate on the following topics: (1) discovering the current status of blockchain technology and its various uses in e-commerce within Australia and in other parts of the globe; (2) getting concept about both constructive as well as off-putting aspects of using blockchain technology and variety of appliances in unlike settings; (3) leveraging the utilization of blockchain technology to expand the business; and (4) offering resolution to the drawbacks and providing some recommendations.

2 Blockchain Technology and its Various Uses

The diverse paradigms of utilizing the technology in diverse business sectors divulge the extensive relevancy of the blockchain technology. Beck et al. (2017) talk about the advantages

and applications of the blockchain technology that is measured as the documentation of digital proceedings. The authors examine the optimistic implications of the technology for modern businesses, particularly in the monetary services to direct the tenure of substantial properties, as well as explain that the blockchain is useful in many sectors, including hospital, educational, and banking, in order to produce a consistent record method (Beck et al., 2017).

2.1 Definition of Blockchain Technology

The blockchain is the technology, which permits all affiliates to maintain a ledger holding the entire transaction data and to bring up to date their ledgers to uphold reliability while there is the latest transaction. The blockchain has broker-free distinctiveness, in that way doing left pointless charges through p2p dealings devoid of endorsement by a third party. The blockchain is an ordered list that hoards data in a structure alike to a dispersed database and is premeditated to create illogically influencing it intricate as the network members accumulate and authenticate the blockchain (Park & Park, 2017).

3 Types of Blockchain Applications

3.1 Digital identity

Without outpaced identity-base safety measures innovations, occurrences, including infringed accounts and/or hacked databases are the rising setbacks of a mechanically sophisticated society. Blockchain technology makes tracking and managing digital identities efficient as well as secure, consequential in faultless sign-on plus concentrated scam. Be it banking, state security, healthcare, online retailing, nationality credentials, identity validation, and also sanction is a procedure intricately rush into culture and commerce all-inclusive (Rosic, 2017).

Current methods utilize sticky password-based methods of shared coverts replaced and stored up in timid techniques; Blockchain technology provides a solution to several digital identity concerns, in which identity can be distinctively authenticated, immutable, and secure. Blockchain identity uses cases include digital identities, wedding certificates, birth certificates, and IDs (Rosic, 2017).

3.2 Distributed Cloud Storage

Present cloud storage services are centralized, for that reason users must put trust in a particular storage provider whose control all the online resources. Alternatively, the blockchain can become decentralized (Rosic, 2017). Yli-Huumo et al. (2016) talked about the grounds of interests in blockchain technology, which provides safety, anonymity, and also data sincerity devoid of any third party support. They also discuss the method to advance the restrictions of the technology from confidentiality and precautions perspectives. Park & Park (2017) discuss in their research the way to acclimatize Blockchain protection to cloud computing plus its protected resolutions thoroughly. However, more studies on usefulness are also needed next to protection, with regards to the ambiance wherein a huge amount of data is sent out.

3.3 Voting

Blockchain offers all of the distinctiveness that a user wants in a podium, which is possibly the foremost significant component of a free culture; for example fault-tolerant, one can't alter the history or alter the entrance to the system, or hack the present, each knob along with entrance can observe the precise similar outcomes, and also each vote can be indisputably traced to its root devoid of forfeiting a voter's vote ambiguity (Meola, 2017).

4 Using the Blockchain in the Financial Sector

Financial organizations are discovering blockchain technology for a number of reasons. G&C Mutual Bank can also consider the reasons carefully. The key factors of using blockchain in the financial sector are explaining briefly below:

4.1 Cost reserves and Effectiveness

Strengths of Blockchain technology are extremely attractive to banks that are coping with increasing charges for preserving or restoring their aging infrastructure and making sure conformity with profound authoritarian burdens (Meola, 2017).

4.2 Competing with Start-ups

Financial organizations can use blockchain tech to provide services (like global payments and remittances) at reduced costs, with greater speed and more user-friendly interfaces (Meola, 2017).

4.3 Innovative Business Models

Financial organizations, particularly banks can utilize blockchain-based techniques to evade heritage infrastructure or central bodies. Banks can improve these systems to make innovative business models that interrupt the monetary system (Meola, 2017).

5. Advantages of Blockchain Technology

5.1 Diversity of the Technology

The diversity of eventual Blockchain appliances goes advance to wrap a huge number of businesses plus societal provisions from tracking pharmaceuticals as well as shipping containers to tracking weddings as well as gaming prizes based on neat contracts implanted in Blockchain appliances.

5.2 Enormous Prospective

The Blockchain technology holds an enormous prospective for facilitating advanced money transactions as well as cross-border currency transmits. In addition, the likelihood of dispersed ledgers, which follow possessions of various resources, can become appreciably important in the future days once the principles plus infrastructure of Blockchain technology have got improvement and being experienced.

5.3 Enhanced Security

Blockchain endows with safety throughout the verification of peers, which distribute encryption, virtual money, and the hash generation of value (Park & Park, 2017). Blockchain can

be functional further than the Internet of Things (IoT) atmospheres. It provides rise to a lot of setbacks, for instance, software, wallet, and security of transactions.

5.4 Quality Control

The Blockchain technology endows with a high quantity of power over as well as reliance on the data. Blockchain technology has a lot of productivity concerning data sharing, individual data privacy disquiets, as well as reproducibility. Research has explored a number of benefits of the application blockchain functionalities to medical trials (Benchoufi & Ravaud, 2017).

5.5 Innovative Technology

The Future of Cryptocurrencies, principally blockchain technology is that it can force innovation across different industries. The technology has the probability to decentralize the technique users control information and accumulate data. However, there are also some drawbacks of the rising of decentralized technology (Wright & Filippi, 2015; D'Alfonso et al., 2016).

5.6 Record Management

The blockchain is an improved technology to record management. State, national, and native governments can preserve records of people, including marital status, birth, and death dates, property transfers, and others by using the blockchain technology.

6 Disadvantages of Blockchain Technology

Due to the characteristic of blockchain technology, it will constantly be slower than the centralized databases. While a transaction is being practiced, a blockchain should perform all those things that a centralized database does, however it holds three further troubles as well:

6.1 Signature authentication

Each blockchain transaction should be digitally marked employing a public-private cryptography method theme. This is often essential as transactions promulgate amid nodes in a peer-to-peer approach, as a result, their root cannot somewhat be confirmed (Song, 2016).

6.2 Redundancy

Redundancy is not concerning the act of an individual node, though a blockchain needs the whole amount of calculation. While the centralized database processes transactions once or else twice, a decentralized database in a blockchain needs to be processed severally through each node within the network. As a result, a lot of work is being completed for a similar identical outcome (Song, 2016).

6.3 Consensus Mechanisms

In a blockchain that uses a distributed database, an attempt should be exhausted in guaranteeing that nodes within the network reach accords. Conditional on the accords mechanism utilized, this would possibly involve important back-and-forth statement and/or managing with forks plus their subsequent rollbacks. These are far less possible in which transactions are queued as well as processed in an individual position, while it is factual that centralized databases are competed along with conflicting as well as aborted transactions (Song, 2016).

7 Related Ethical, Social and Legal Considerations

Plansky et al. (2016) discuss the ethical, social and legal considerations in which a business like G&C Mutual Bank should consider the factors as the anticipated Blockchain resolutions. The authors have discussed many other things related to the Blockchain, such as the roots of the technology, impact and innovation and others (Plansky et al., 2016). Some of the related issues are discussed below:

7.1 Liability

The threat to clients of a general issue with trading associated infrastructure, for example, blockchain technology could be substantial if employments are not established properly or are developed inaccurately. Similarly, the danger regarding security as well as privacy can be towards the highest of the threat concerns with any potential client (McKinlay, 2017).

7.2 Jurisdiction

Blockchain has the flexibility to cross jurisdictional limitations because the nodes on a blockchain technology can be situated anyplace in the globe. This technology can create a variety of intricate jurisdictional problems that need careful thought in reference to the pertinent written agreement relationships (McKinlay, 2017).

7.3 Intellectual Property

There is certainly value in the blockchain technology, plus ownership of the IP in it will probably structure a significant reflection notwithstanding that even if the boundaries on the software patentability as well as business procedures. However, as given the number of speculation and also the probable monetary returns of blockchain technology, merchants of blockchain technology need to determine their IP tactics. Merchants will seemingly want to exploit on any other viable advantages to be produced from the Blockchain, together with the commercialization of the fundamental data set. In order to cover the data set that relates to the end users, this is expected to be a cautiously agreed area (McKinlay, 2017).

7.4 Data Privacy

As one of the key blockchain's USPs is that when data is held on it can't be distorted (as a minimum, not simply), this evidently has allusions for data privacy, notably wherever the pertinent data is private data or else metadata adequate to disclose one's private details.

8 Conclusion

This study force has concentrated on blockchain technology and its various uses across the industries. After studying the topic actively, a big amount of information has accumulated about the blockchain technology and submitted in the Executive Management meeting. The key purpose of this report was to collect information about the recent use of blockchain technology and propose a strategic plan for the next five-years for G&C Mutual Bank as it has planned to enlarge the business further. After studying thoroughly the available data online, the report team has learned many things related to blockchain technology. The blockchain technology is being used in the diverse sectors for diverse reasons. Some of them are discussed in this report, such as managing distributed cloud storage, digital identity, and voting. This report has discussed the benefits of using blockchain technology, particularly in the financial organization like G&C Mutual Bank. The key factors of using blockchain in financial services include cost reserves and effectiveness; competing with start-ups; and innovative business models.

This report has identified many advantages of using the blockchain technology. The technology holds an enormous prospective for facilitating advanced money transactions and also cross-border currency transfers. It offers protection throughout the verification of peers, which distribute encryption, virtual currency, as well as the hash generation of value. It provides rise to a lot of setbacks, for instance, software, wallet, and security of transactions. This technology provides a high quantity of power over plus reliance on the data. It has a lot of productivity concerning data sharing, individual data privacy disquiets, as well as reproducibility. This report has identified some disadvantages of using blockchain technology. Due to the characteristic of blockchain technology, it will constantly be slower than the centralized databases. While a transaction is being practiced, a blockchain should perform all those things that a centralized database does, however it holds three further troubles as well, including signature authentication, redundancy and consensus mechanisms.

The report has also discussed the ethical, social and legal issues related to blockchain technology implementation and finally, this report has provided some recommendations for using the blockchain technology to G&C Mutual Bank.

9 Recommendations

Recommendation 1: Strengths of Blockchain technology are extremely attractive to financial organizations due to many reasons. For competing with e-commerce start-ups, G&C Mutual Bank can use blockchain technology to provide services (like global payments and remittances) at reduced costs, with greater speed and more user-friendly interfaces.

Recommendation 2: Although some companies have chased a wait-and-see approach with blockchain technology, this is the right time to move ahead with the technology. The blockchain technology is evolving fast. The G&C Mutual Bank should implement the technology at least in small projects so that it can convince a range of stakeholders for further involvement.

Recommendation 3: For the extensive e-commerce business model, G&C Mutual Bank can utilize the blockchain-based techniques to evade heritage infrastructure or central bodies. The Bank can improve decentralized based systems to make innovative business models that improve the monetary system.

Recommendation 4: In order to prevent data privacy turning into an obstruction to adopt, technology-based resolutions can be found to plan security-protecting blockchains. This can comprise restricting who can take part of the blockchain technology network to “trusted” nodes as well as encrypting the data on the blockchain, though this is not devoid of its disputes, and also it leftovers to be observed the way merchants, significantly those tackle the privacy equilibrium versus transparency.

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