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BLOCKCHAIN: IMPACT ON AUDIT INDUSTRY

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Overview

Bitcoin introduced the concept of Blockchain technology, the first digital currency ever created in 2008. The interesting fact about blockchain technology lies in its use of p2p network that runs with the help of cryptography. Blockchain enables trustless transactions i.e, people who do not know each other can now exchange something (currency, services etc) without the interference of a central authority such as Bank or Payment processing network. By eliminating the central authorities and harnessing the potential of peer-to-peer networks, this new technology is providing several opportunities such as : Low transaction fees, Fast settlements etc. From financial services to the public sector to health care, blockchain can transform and disrupt a multitude of industries. We are witnessing a lot of institutions are taking interest and even doubling down in this technology and are moving towards digital models.

Not only as a payments network, but a wide range of businesses are testing the blockchain technology in their field and are researching its applications, it's not only about Bitcoin anymore. We are yet to see this technology being scaled for enterprise level solutions, which is a fundamental challenge to blockchain's transformative potential. One of the industries that has hugely dedicated their executives in research is the Accounting & Auditing industry. Being on top of the technological and fundamental shift in the industry is always important and big accounting firms are encouraging their professional and public accountants to learn more about this technology. With this document. We aim to focus on and explain the potential impact of DLTs in this accounting sector.

We believe that blockchain technology may have its own merits/demerits over the audit and assurance profession and could also bring several new opportunities and challenges.

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Blockchain - simplified

What Is Blockchain Technology?

A blockchain is a digital ledger created to record transactions done between various participants in a network. It's an interest-based distributed ledger that is peer-to-peer. This ledger record all the transactions since its creation. 'Nodes' are referred to the parties that are actively participating in the network using the shared database, each party (i.e., individuals or businesses) maintaining an identical copy of the ledger. Each entry into a blockchain can be referred to as an exchange of say - a digital asset that represents rights, obligations or ownership – between participants. In practice, many different types of blockchains are being developed and tested. Although, majority of the blockchains are focusing on one simple framework and approach known as consensus algorithm i.e., when one participant in the network want to send value to another, all the other nodes (or participants) communicate with each other using a pre-determined mechanism to check the legitimacy of the new transaction and to term it as a 'valid transaction' on the checking is done. Once this new transaction is recognized and accepted by the network, then all the copies of the ledger are updated with the new information.

All these transactions are usually combined into a 'block' that is then added to the ledger. Each block is connected with the previous block and vice-versa. Thus all blocks in the chain link together in the distributed identical copies. The best thing about this ledger is that nodes (or participants) in the network can add a new entry in the ledger but cannot alter, delete and manipulate the data in the ledger since they have been validated and accepted by the network.

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Characteristics

& Benefits of Blockchain

Near real-time settlement	**A blockchain enables the near real-time settlement of transactions, thus reducing risk of non-payment by one party to the transaction.**
Distributed ledger	**The peer-to-peer distributed network contains a public history of transactions. A blockchain is distributed, highly available and retains a secure record of proof that the transaction occurred.**
Irreversibility	**A blockchain contains a verifiable record of every single transaction ever made on that blockchain. This prevents double spending of the item tracked by the blockchain.**
Censorship resistant	**The economic rules built into a blockchain model provide monetary incentives for the independent participants to continue validating new blocks. This means a blockchain continues to grow without an "owner". It is also costly to censor.**

The distributed nature of Blockchain is what makes it unique. In the traditional financial markets, the need for a central authority such as banks or credit card networks is a must in order to successfully make a transaction between two parties. The merit of having such intermediaries is that these processors reduce counter party risk for the parties involved in the transaction, but centralize credit risks with themselves. While these parties have a lot of things on the play, each centralized processor has to maintain their own separate ledger, meaning that the users or transacting parties are totally dependable on these processors for a successful, accurate and secure transaction. In return of providing these services, these central authorities receive a fee. While the Distributed Ledger Technology enables the transacting parties to exchange value through a single distributed ledger, visible to all and fully transparent.

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Applications

in different areas

Distributed Ledger Technology offers the potential to impact a wide range of industries. One of the widely known application is transferring value between participants without the need for an authority, where current payment processors are proving to be expensive and extremely centralized. A usecase of Blockchain that interests institutions are in the field securities settlement, which traditionally (like today) requires multiple multi-day processes.

The table below illustrates industries where interest in blockchain technology and its potential transformative benefits has been high, as demonstrated by significant investments from both venture capital firms and large enterprises.

Financial Services	**A blockchain enables the near real-time settlement of transactions, thus reducing risk of non-payment by one party to the transaction.**
Consumer products	**The peer-to-peer distributed network contains a public history of transactions. A blockchain is distributed, highly available and retains a secure record of proof that the transaction occurred.**
Healthcare	**A blockchain contains a verifiable record of every single transaction ever made on that blockchain. This prevents double spending of the item tracked by the blockchain.**
Public sector	**The economic rules built into a blockchain model provide monetary incentives for the independent participants to continue validating new blocks. This means a blockchain continues to grow without an "owner". It is also costly to censor.**
Energy & Resources	**The economic rules built into a blockchain model provide monetary incentives for the independent participants to continue validating new blocks. This means a blockchain continues to grow without an "owner". It is also costly to censor.**

Blockchain technology could lower the costs associated with the entire life cycle of a financial instrument (issuance, trading, and settlement).

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Audit Industry

The Potential Impact of Blockchain on the Financial Statement Audit and the Assurance Profession

Auditors practice under professional codes of conduct, strict regulations and maintain auditing standard. The public expects the Auditors to enhance trust and help an exponentially growing multi-trillion-dollar financial markets system function with greater confidence. The auditors apply a certain set of objectivity and professional tactics (generally accepted accounting principles) to provide a factual report backed with data, whether an entity's books are genuine or are free of material misstatement.

Since the introduction of Blockchain in the field of capital markets, and widely ongoing research in the technology, it has been reported by many publications that this new Distributed Ledger Technology might affect the audit industry by eliminating the need of financial statement audit by an individual auditor altogether. As said above previously, why the need for an auditor when all the transactions recorded in the distributed ledger are tamper-proof?

Auditing the transactions of the financial statement is just one of the important aspects. An audit makes sure that the said or recorded transactions are backed by evidence that is verifiable, objective, reliable and relevant

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Just by recording a transaction in a distributed ledger may or may not provide sufficient evidence related to the base grounds of the transaction. A recorded entry in the distributed ledger might still be Fraudulent or illegal, executed between the same participants or dissolved into the statements.

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OPPORTUNITIES FOR FUTURE ROLES

An auditor may be able to use their knowledge, experience and skills to help provide assurance to the user of Blockchain, as these systems standardize transaction processing across many industries. Depending upon the skill sets, expertise, objectivity of the auditor, they may be able to fill a potential role in the future.

The following is a list of potential new roles for an Auditor, illustrative in nature and still require regulatory clarifications in the industry.

SERVICE AUDITOR OF CONSORTIUM BLOCKCHAINS

In many instances, launching a new application on an existing blockchain platform or leveraging or subscribing to an existing blockchain product may result in stability issues of the system. Users of the system may ask for an independent assurance and this is where the role of Auditors comes in. Instead of each user performing their own due diligence, an Auditor could be hired to perform all these tasks. Cryptographic key management should be made keeping in mind about the protection of sensitive information etc. On an ongoing basis, a trusted and independent third party may be needed to provide assurance as to the effectiveness of controls over a private blockchain.

AUDITOR OF SMART CONTRACTS

Smart contracts can be linked into a blockchain to enable continuous and seamless business transactions (whether value, services, ownership etc). Any party may want to contract an Auditor to provide them with assurance and very that smart contracts are embedded with correct business logic. An auditor may also examine the bridge between blockchain and external data that triggers business events. Without proper assurance or auditing, the participants of Distributed Ledger Technologies might face the risk of potentially bigger vulnerabilities. This new role demands the Auditor to know about smart contracts, programming of blockchain etc. This type of role also raises important questions for the auditing profession, including:

- What types of skill sets does the profession need to remain relevant?
- What factors would impact assurance engagement risk?
- What would an assurance provider's ongoing responsibility entail once a smart contract is released into a blockchain?

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ADMINISTRATOR FUNCTION

Permissioned blockchain solutions may benefit from a trusted, independent and unbiased third party to perform the functions of a central access-granting administrator. With this function, validation of identity or further due diligence could be done by the participant before they can access blockchain. Validation of enforcement and monitoring of blockchains protocols could be done by the central administrator. On the other hand, if this same function is performed by node (or participant), then it may hamper the trust between the actors as there might be a potential advantage in existence. Establishing both its function and its legal responsibilities will require due care and as an independent trusted professional with experience, an Auditor may be capable of carrying out this responsibility. However, there still be some questions that are yet unanswered.

- By taking on such a critical role, is the assurance provider independent from the blockchain participants?
- Could the auditor conduct financial statement audits on those participants?

ARBITRATION FUNCTION

Disputes can happen even between the most decorated and reputated parties, as the business arrangements can be complex. For a permissioned blockchain, an arbitration function might be needed in the future to settle disputes among the consortium-blockchain participants. This function is analogous to the executor of an estate, a role typically filled by various qualified professionals, including auditors. Participants on the blockchain may require this type of function to enforce contract terms where the spirit of the smart contract departs from a legal document, contractual agreement or letter.

Further considerations should be explored to determine whether an arbitration function is necessary. If Auditors want to take on this role, critical questions will need to be answered, such as:

- What legal framework would be used to settle disputes?
- What skill set would be required for an auditor?
- Could this role create unintended threats to independence regarding attest clients?

Giacomo Arcaro

He has 15 years' experience in growth hacking, digital strategy, startup and business development. He has advised over 150 startups and has 50 managed employees into a XII Century Church in Italy for the European biggest growth hacking company. He holds the title of 'Amazon Best Seller Author' and is been known to be one of the 'Most Influencial Blockchain Evangelist' with +200 conferences all over the world.

Forbes
'The Most Influential Fintech Advisor'

WIRED
'European Best Growth Hacker'

Giovanni Casagrande

A known name in the world of cryptocurrency. He has been in the marketing industry for well over 20 years and have switched to the cryptocurrency industry in 2014. He's a writer, public speaker, investor and Marketing / Growth Hacking advisor in more than 100 successfully projects. His specialty was Economics in the University of Bologna and the knowledge, experience gathered from there has helped him to manage/help many businesses in the industry. 4 years ago he founded Black Marketing Guru, a successfully Growth Hacking startup in Italy.

Blockchain Life 2019
'Number 1 ICO Advisor Worldwide Award'

Humans of BlockChain
'An influential Personality in the Blockchain Space'

Eloisa Marchesoni

Known as the youngest and most influential Blockchain expert in the field. She is an Italian-American who first started out as a startupper in the AI and IT business, while still finishing her Economics and Management studies in Bocconi. Eloisa is a renowned author, public speaker, and biz-dev, catering startups and companies wanting to innovate. Currently being the Chapter
Director of Bocconi University Startup Grind Chapter, she made valuable connections and became a part of some of the main blockchain associations around the world, namely The Blockchain Council and The NYC Women in Blockchain. She will be featured in the Forbes Italy 30 Under 30 most influential entrepreneurs in 2020.

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