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A Comparative Dive into Crowdfunding Methods - Traditional vs Blockchain

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A B S T R A C T

Traditional crowdfunding systems often rely on centralized structures where intermediaries manage transactions, resulting in potential inefficiencies, higher costs, and limited transparency. In contrast, blockchain technology introduces a decentralized approach to crowdfunding, leveraging smart contracts and distributed ledgers. This enhances transparency, security, and trust among participants, minimizing the need for intermediaries and reducing transaction costs. The abstract delves into the impact on speed, efficiency, and scalability, highlighting how blockchain's decentralized nature may streamline processes, expedite transactions, and offer scalable solutions for crowdfunding. Ultimately, the abstract underscores the evolving landscape of crowdfunding platforms, with traditional methods facing challenges that blockchain technology aims to address, fostering a more inclusive and efficient fundraising environment.

Keywords: Blockchain Technology, New Technology, Traditional Crowdfunding

1. Introduction

Crowdfunding, a dynamic and innovative fundraising model, has witnessed a transformative evolution with the advent of blockchain technology. Traditional crowdfunding platforms, characterized by centralized control and reliance on intermediaries, are now juxtaposed with decentralized blockchain solutions that promise to revolutionize the way funds are raised and managed. This introduction sets the stage for a comprehensive exploration of the key distinctions between traditional and blockchain technologies within the realm of crowdfunding platforms. As the traditional model grapples with issues of transparency, security, and efficiency, blockchain emerges as a disruptive force offering decentralized frameworks, smart contracts, and distributed ledgers that have the potential to redefine the dynamics of fundraising. This discussion navigates the nuances of these technologies, shedding light on their implications for crowdfunding efficiency, participant trust, and the broader landscape of financial innovation. In a rapidly evolving financial ecosystem, understanding the contrasts between traditional and blockchain- based crowdfunding becomes crucial for stakeholders seeking to adapt to, or harness, the transformative power of emerging technologies. A blockchain is an accumulation of blocks that hold data. Each block contains the previous block's cryptographic key [1], timestamp, and transaction information. This technology has been prevalent for a series of applications. Since Satoshi introduced the Bitcoin platform based on the blockchain system in 2009 [2], blockchains have been attracting attention with various applications in various fields. Till now, the most accepted usage of blockchain technology has happened in Bitcoin's distributed transactions [3]. However, researchers have found other practical applications of blockchain in the government's public services [4]. IOT and the most important financial and banking sectors [5] are two major fields where the proper usage of blockchain technology can bring more productivity. Blockchain technology has several unique properties that make it ideal for financial transaction applications. The main characteristics of the blockchain are decentralized, consensus, provenance, immutability, and finality. Decentralized means no single most potent entity controls the whole blockchain, and it is a crucial feature of the blockchain. The whole system runs on the standard agreement of its participants. This standard agreement is called consensus. Again, consensus is one of the most important characteristics of the blockchain. When all the participants of a blockchain network agree on a transaction, the transaction gets executed. Crowdfunding is a fundraising mechanism for new ventures and innovative projects. It is the practice of raising funds from a large number of people, often called backers, typically using online platforms such as Kickstarter or Republic. An interesting aspect of crowdfunding is that it gives non-professional investors (retail investors) access to early-stage investments. Before the rise of crowdfunding this investment, segment was reserved for professional (accredited) investors. Therefore, crowdfunding can be seen as a method to democratize the investment industry. It's a method to unchain the massive amount of capital held by retail investors which in turn could boost the investment industry [6]. At the beginning of 2018, more established companies also started to explore new funding opportunities. However, there is a lack of understanding about the differences between traditional crowdfunding and blockchain-based crowdfunding campaigns, due to the nascent and complex nature of the phenomenon. Even though blockchain-based crowdfunding bears a similarity to conventional crowdfunding, it has its unique characteristics. As a result, the success factors that affect the outcome of

traditional crowdfunding may not work for blockchain-based crowdfunding. There exists a lack of understanding of what the success factors for blockchain-based campaigns are in comparison to conventional crowdfunding factors [7].

1.1 Traditional fundraising problem and solution

Traditionally, banks and venture capital funds are the main way to fill the gap in the funding chain. A startup founder would approach a bank or a venture capitalist with his project pitch for funding and if they are interested in the project then the bank or venture capitalist will fund it for some returns, such as equity in case of venture capitalist or loan interest amount in case of banks. However, this way of raising funds has limitations associated with it. This process of fundraising requires a huge amount of time, money and valuable resources that project creators from developing countries or remote places do not have access to. If we consider a bank loan as the solution for funding a project then the bank might become a bottleneck in the project as a bank needs concrete proof of how the project generates revenue and also it requires the founder to provide collateral for the amount loaned.

Crowdfunding is the solution to the issues with the traditional approach of fundraising. In crowdfunding, a person or a team with an idea to solve a problem can raise capital from a huge number of individuals who are interested in funding the venture. Crowdfunding provides a platform to anyone who has an idea to pitch in front of investors ready with money to invest. The major benefits of crowdfunding are, access to a large number of accredited investors who can see and interact with the campaign. Get a top-level view of traction, addressable market and value proposition of the idea. Presenting the concept to many investors helps the start-up founder to validate and refine his offerings. The best thing about online crowdfunding is its ability to centralize and streamline the campaign creator's fundraising efforts by building a single, comprehensive profile that targets all the potential investors eliminating the need to pursue each one of them individually.

1.2 Blockchain crowdfunding systems offer several distinct benefits compared to traditional crowdfunding models. Here are some key advantages:

1. Decentralization and Trust:

Blockchain: Operates on a decentralized network where transactions are verified by a consensus mechanism among participants. This eliminates the need for a central authority, fostering greater trust and transparency.

Traditional: Relies on centralized intermediaries, which may introduce trust issues and potentially lead to disputes or inefficiencies.

2. Reduced Intermediary Costs:

Blockchain: Smart contracts automate the crowdfunding process, reducing the need for intermediaries. This can result in lower transaction costs, as there are fewer entities involved in facilitating and validating transactions.

Traditional: Involves intermediaries such as banks or payment processors, leading to higher transaction fees and administrative costs.

3. Global Accessibility:

Blockchain: Enables global participation in crowdfunding campaigns without the constraints of traditional banking systems. Cryptocurrencies facilitate cross-border transactions, opening up fundraising to a more diverse and international audience.

Traditional: This may be limited by geographical and banking restrictions, hindering access for potential backers outside specific regions.

4. Transparency and Accountability:

Blockchain: Utilizes a transparent and immutable ledger that records all transactions. Contributors can trace the flow of funds, ensuring accountability and reducing the risk of fraudulent activities.

Traditional: Transparency may be limited, with contributors having less visibility into how funds are utilized or whether they reach the intended recipients.

5. Security and Fraud Prevention:

Blockchain: Employs cryptographic techniques to secure transactions and data. The decentralized nature of blockchain makes it resistant to hacking, reducing the risk of fraud or unauthorized access.

Traditional: Centralized systems may be more susceptible to security breaches, exposing sensitive information and funds to potential threats.

6. Faster and More Efficient Transactions:

Blockchain: Transactions on blockchain are processed in real-time or near-real-time, reducing the time it takes to complete crowdfunding campaigns. Smart contracts automatically execute predefined conditions, streamlining the process.

Traditional: Involves manual processes and verification steps, which can introduce delays and hinder the efficiency of fundraising campaigns.

7. Inclusivity and Accessibility for Small Investors:

Blockchain: Allows for microtransactions and fractional ownership, enabling even small investors to participate in crowdfunding campaigns. This fosters a more inclusive and democratic fundraising environment.

Traditional: Minimum investment requirements and associated costs may limit the participation of small investors, making crowdfunding less accessible to a broader audience.

In summary, blockchain crowdfunding systems bring about a paradigm shift by introducing decentralization, reducing costs, enhancing transparency, and providing a more inclusive and secure fundraising environment when compared to traditional crowdfunding models. These advantages have the potential to reshape the landscape of fundraising and democratize access to capital for a diverse range of projects and ventures.

1.3 HOW BLOCKCHAIN HELPS CROWDFUNDING

1. The Magic of Decentralization: Startups are not going to rely on any platform or combination of platforms to enable creators to raise funds. Startups no longer be beholden to the rules, regulations, and whims of the most popular crowdfunding platforms on the internet. Any project has a chance of getting visibility and getting funded. It also eliminates the problem of fees. While blockchain upkeep does cost a bit of money, it will cut back drastically on transaction fees. This makes crowdfunding less expensive for creators and investors [8].

2. Tokenization: Instead of using crowdfunding to enable preorders of upcoming tangible products, blockchain could rely on asset tokenization to provide investors with equity or some similar concept of ownership, for example, Initial Coin Offering (ICO). That way, investors will see success proportional to the eventual success of the company. This could potentially open whole new worlds of investment opportunity. Startups could save money on hiring employees by compensating them partially in fractional ownership of the business, converting it into an employee-owned enterprise. Asset tokens become their form of currency in this model, enabling organizations to do more like hire professionals like marketers and advertisers [8].

3. High availability and Immediate provision: Any project using a blockchain-based crowdfunding model can potentially get funded. Also, any person with an internet connection can contribute to those projects. Blockchain-based crowd funders wouldn't have to worry about the "fraud" that have plagued modern-day crowdfunding projects. Instead, contributors will immediately receive fractional enterprise or product ownership [9].

4. Smart Contracts to Enforce Funding Terms: There are several ways in which blockchain- enabled smart contracts could provide greater accountability in crowdfunding. Primarily, these contracts would provide built-in milestones that would prevent funds from being released without provenance as to a project or campaign's legitimacy. This would prevent large sums of money from being squandered by those who are either ill-intended or not qualified to be running a crowdfunding campaign in the first place [9].

2. Conclusion

In conclusion, the comparison between blockchain crowdfunding systems and traditional models underscores a transformative shift in the landscape of fundraising. The benefits inherent in blockchain technology, such as decentralization, reduced intermediary costs, global accessibility, enhanced transparency, and security, collectively contribute to a more efficient, inclusive, and accountable crowdfunding environment. The decentralized nature of blockchain not only eliminates the need for intermediaries but also fosters greater trust among participants through transparent and immutable ledgers.

Blockchain's ability to facilitate cross-border transactions and accommodate micro-investments opens up new possibilities for a global and diverse pool of contributors, democratizing access to fundraising opportunities. The use of smart contracts streamlines processes, reducing the time and administrative complexities associated with traditional crowdfunding.

While traditional crowdfunding systems have played a crucial role in enabling projects to come to fruition, the evolution towards blockchain-based crowdfunding signifies a more dynamic, secure, and accessible future. As the world of finance continues to embrace technological innovation, the advantages offered by blockchain in crowdfunding have the potential to reshape the way capital is raised and allocated, fostering innovation and democratizing financial opportunities for a broader spectrum of individuals and businesses. As both technologies continue to evolve, it will be intriguing to witness the ongoing transformation of the crowdfunding landscape and its impact on the democratization of finance.

The goal of this research is to present an insurance framework using blockchain and smart contracts. The insurance transaction process gets executed in a secure private Ethereum-based decentralized system that increases security to a great extent. The usual contracts for insurance are made using smart contracts in this framework. Decentralized Solidity smart contracts eliminate the complexities regarding claim settlements and insurance by their immutable nature. The use of the PoA algorithm in this framework saves a lot of storage and money. So, the framework provides an efficient and secure solution to insurance operations and functionalities. The framework presented in this paper is not a domain specific one [10]. It focuses on a standard approach for standard insurance policies. For any specific kind of insurance, this framework is also prevalent with customization in the smart contract. This framework provides a secure procedure to execute the whole process with security and transparency from registration to refund in insurance. In this framework, the scalability is tested by increasing the number of peers for a fixed block size of 20. It is shown that the confirmation time increases as there are more peers. Though the confirmation process gets slower with more peers, the security increases significantly with more validators.

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