Crowd Funding using Blockchain Technology

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Abstract—

Crowdfunding, which began as a digital means of collecting tiny contributions to support innovative projects, has expanded substantially in the digital age. With the growth of online platforms and the power of social media, this unique fundraising strategy now allows entrepreneurs and charity organisations to reach a global pool of possible investors and contributors. Crowdfunding has evolved as a powerful tool for levelling the playing field in terms of financial resources, enabling inventors and visionaries to make their ideas a reality. This study delves into the complexities of crowdfunding, evaluating its various models, important success criteria, and the constantly shifting regulatory context in which it operates. This project focuses on the creation of an online platform that connects motivated donors with significant non-profit organisations, community efforts and people in need. Unlike traditional crowdfunding platforms, this strategy prioritises donors as the primary contributors, instilling a sense of ownership and active participation in the projects they select to support. While donation-based crowdfunding shows potential as a fundraising tool for non-profit social welfare organisations, there is a scarcity of comprehensive academic research about the components that contribute to a successful campaign.

Keywords— Crowdfunding, online fundraising, Blockchain, smart contracts, decentralized platform.

I. Introduction

Donor-Based Crowdfunding, sometimes known as reward-based crowdfunding, is a popular fundraising method in which individuals or organisations seek financial assistance from a community of supporters. Unlike traditional fundraising approaches, donor-based crowdfunding involves collecting contributions from a large number of people, which is sometimes aided via specialised internet platforms. What distinguishes it is that the contributors do not behave like traditional investors; rather, they offer capital in exchange for non-monetary rewards or incentives supplied by the project's creator. These incentives might range from first access to a product or service to special recognition or exclusive experiences.

Donor-based crowdfunding has grown in popularity due to its ability to democratise funding for a wide range of projects, including creative endeavours, entrepreneurial ventures, and charitable causes. Blockchain technology necessitates an examination of how it is applied and the potential effects it may have on business financing.

Crowdfunding has evolved as an effective means of raising funds, providing an alternative to traditional finance methods. With the introduction of blockchain technology, crowdfunding has entered a new era of innovation, allowing for secure and dependable funding for a wide range of projects and enterprises, including startups,

unique goods, and philanthropic endeavours. The decentralisation and transparency inherent in blockchain technology have transformed the dynamics between innovators, donors, and consumers, encouraging trust in donors and providing a platform for innovators to bring their ideas to life. Crowdfunding, in essence, is a means for individuals, businesses, and organisations to raise funds for their projects, products, or causes by collecting small donations from a large number of people, typically via internet platforms.

There are various types of crowdfunding, each geared to individual requirements and aims.

II. Literature Review

A comprehensive literature review on crowdfunding provides a full overview of studies in this dynamic and ever-changing topic.

1) Blockchain-enabled crowdfunding platform June 2022: The authors' major goal is to create a decentralised application powered by the Ethereum Blockchain to address the shortcomings of current crowdfunding platforms. They plan to accomplish this by developing a platform that stores all campaign, donation, withdrawal, and financial data on a public blockchain network accessible to all users. Transactions only need to be recorded once using a shared ledger, eliminating the need for additional effort. This technique improves the crowdfunding process's security and transparency by ensuring that all transactions are final and irreversible [1].

2) Blockchain-Based Crowdfunding System uses Ethereum Smart Contracts to Enhance Information Symmetry and Trust July 2021: The author is looking into the building of a crowdfunding platform using the Ethereum Blockchain. The platform's core feature is a smart contract that checks the status of user-generated contracts and executes them automatically when certain circumstances are satisfied. Using this system reduces information asymmetry and increases transparency. The study does not address the use of smart contract tokens, which may be difficult to grasp for consumers who do not have a fundamental understanding of blockchain technology [2].

3) Crowdfunding Platform Study at the ICT International Conference: This study proposes an innovative technique for leveraging crowdsourcing to help create smart cities. The study investigates how users of crowd funding websites react to them and their investment behaviour. The concept is theoretical and provides a foundation for creating a crowd funding platform for smart cities. The structure proposed in this study is centralised, which implies it is controlled by a single authority [3].

4) Shingai Conventional Crowdfunding Platform Study Text analytics are employed in this study to look at the impact of sentiment orientation on crowd fundraising. The plan attempts to eliminate middlemen in

applications for crowd funding. Although no detailed architecture is presented, a blockchain-based crowdfunding mechanism is proposed to achieve this goal. The study focuses on how investors and developers behave during crowd fundraising, despite the fact that the platform does not consider creators' vested interests [4].

5) Crowdfunding: A Literature Review and Research Direction. The literature on crowdfunding is primarily concerned with the reasons why parties seek financing, the factors that lead to crowdfunding success, and the legal constraints on equity-based crowdfunding. However, the majority of these platforms are country-specific, and government access is required for them to function [5].

6) Facebook and Kickstarter are two examples of social networks used in this study to examine the association between crowdsourcing project success and creator social networks. However, the research platform employed does not appear on GitHub [6].

7) Interviews, RockHub, Kickstarter, and Indiegogo. The purpose of this study is to determine how much effort capital-seeking parties must expend to design and execute a successful crowdfunding transaction. However, because the study's white paper is currently unavailable, potential readers are concerned about the study's validity. Readers may have concerns regarding the results' correctness and validity due to a lack of supporting evidence [7].

8) Donation-based crowdfunding on the blockchain is the use of blockchain technology to simplify and secure the process of obtaining funds through donations for various projects or initiatives. Blockchain creates a visible, secure, and unchangeable ledger where all transactions are recorded. This transparency is important in crowdfunding because it allows donors to trace their contributions and ensures that the funds are used for their intended purpose.Blockchain-based crowdfunding has the potential to reduce these fees by removing intermediaries. Smart contracts automate the delivery of cash, eliminating the need for third-party payment processing. Blockchain's decentralised structure implies that no single authority controls the crowdfunding process. This reduces the possibility of fraud, censorship, or mishandling of cash. The distributed nature of blockchain improves the security of the crowdfunding platform [8].

Proposed System

Working on a donor-based crowdfunding campaign comprises a variety of responsibilities aimed at using the power of individual consideration to support a certain cause or project. It starts with clearly identifying the campaign's purpose and setting reasonable budget goals. Creating a fascinating story that emotionally resonates with potential donors is important since it lays the groundwork for the campaign's success. Choosing the ideal crowdfunding platform, developing enticing prizes or motivators, and establishing an acceptable campaign duration are all essential strategic building blocks. Effective marketing methods that include social media, email outreach, and personal networks are critical for reaching a larger audience. Engaging supporters with regular updates and personalised interactions builds trust and encourages ongoing contributions. Demonstrating social proof by getting initial financing from friends and family might cause a snowball effect of contributions.The proposed system for the Donor-Based Crowdfunding Project, currently known as "Give With

Heart," involves the development of an innovative and user-friendly online platform with the goal of transforming the way charity organisations secure funding. Give With Heart's primary goal is to empower donors by providing a transparent and engaging crowdfunding experience.

Donors will be able to register and create profiles on Give with Heart, giving them access to a wide range of projects and causes that correspond with their values and interests. Project organisers, on the other side, will be able to highlight their initiatives by offering detailed information about their goals, deadlines, and financial needs.

This portal will prioritise donor involvement, allowing for direct connection between donors and project organisers. It will also have transparent fundraising procedures, allowing contributors to see how their contributions are used. In addition, comprehensive reporting and accountability procedures will be introduced to guarantee that monies are allocated efficiently.

Give With Heart aims to promote community and collaborative impact by bringing together donors and project organisers to drive positive change in sectors such as education, healthcare, environmental conservation, and humanitarian aid.
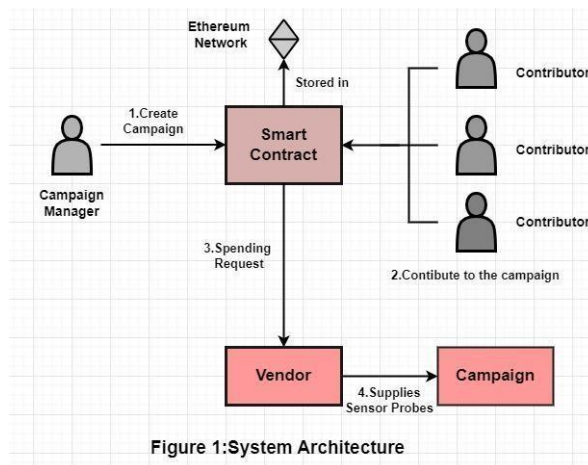

Figure 1:System Architecture

Methodology

First, researchers often define explicit study objectives and hypotheses to guide their work. Next, data gathering methods are determined, which frequently include the collection of past crowdfunding campaign data, questionnaires, interviews, or participant observations. The selection of data sources and sampling methodologies is crucial to ensuring that the sample is representative. When working with sensitive crowdfunding data, researchers must address ethical implications as well as data privacy risks.

i. **User-oriented interface:**

The website and app are designed to be intuitive, responsive, and mobile-friendly. Clear navigation with easy-to-understand categories and search capabilities. User-friendly campaign creation process with step-by-step instructions.

ii. Account creation and profiles:

Secure registration and login processes. Avatars, biographies, and social media connections can all be customised on user profiles. Verification badges for established and trustworthy users.

iii. Operation formulation:

Simple campaign setup, including templates and recommendations. Multimedia support includes images, videos, and text. Storytelling tactics can help activists effectively convey their message. Detailed budget breakdown and financing objectives .

iv. Campaign Coordination

Real-time campaign editing and changes.

v. Transaction execution:

Secure payment gateway with a variety of alternatives (credit/debit cards, PayPal, cryptocurrency, etc.).A transparent fee structure with a breakdown.

vi. Reliability and Credibility:

User reviews and ratings for campaigners.
Verification process for campaign creators (e.g., ID verification).Anti-fraud controls and reporting mechanisms.

vii. Explicit charges:

A clear fee structure was widely indicated. costs are determined by the amount of funds raised (for example, fully financed campaigns pay reduced costs). Campaign creators receive regular financial reports.

viii. Contributor Engagement:

Backers have the option to ask questions and receive updates from campaigners. Backer feedback and debates on campaign pages. Backer perks and incentives for supporting initiatives.

ix. Data interpretation and Reporting: Backers and campaigners can both see detailed campaign analytics. Email reminders on campaign achievements and updates. Reporting tools for tracking campaign performance.
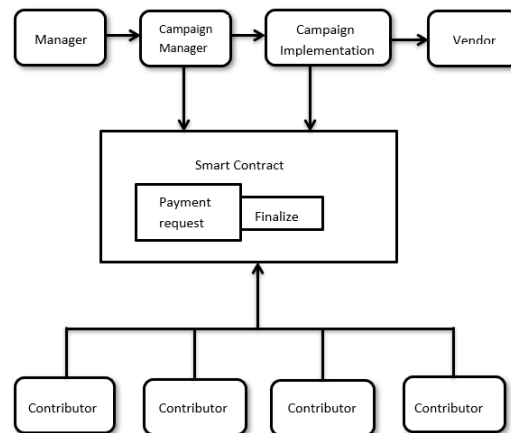
III. Block Diagram

Figure 2: BlockDiagram

IV.   Conclusion

In conclusion, donor-based crowd fundraising is a powerful and transformative method of obtaining finances for causes, projects, and activities. It demonstrates the collective generosity of individuals who want to make a difference in the world. Successful campaigns are based on a clear purpose, great storytelling, and open communication. They thrive Through strategic planning, effective marketing, and meaningful contact with supporters. Donor-based crowdfunding democratises fundraising by connecting anyone with a compelling idea to a worldwide community of potential funders. It enables individuals, non-profit organisations, and grassroots initiatives to realise their objectives. However, it also requires a commitment to responsibility and ethical management, as contributors place their trust in campaign organisers.

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