A New Era of Connectivity:
Exploring the Potential of Pi Network

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ABSTRACT

Pi Network is a decentralized and trust less network that was created to make cryptocurrency accessible to everyone, regardless of their technical knowledge or resources. Its unique economic model allows users to mine Pi cryptocurrency using their mobile phones, making mining more accessible and promoting decentralization. Pi Network has implemented a system of trust levels and nodes that reward active and engaged users, ensuring that the network remains secure and stable. The Pi Network offers low transaction fees, fast transaction speeds, and is resistant to hacks and cyber-attacks. Its energy-efficient consensus algorithm makes it less harmful to the environment, and its limited supply of 10 trillion helps prevent inflation. The Pi Network's innovative solutions to the challenges of traditional cryptocurrency mining, along with its low transaction fees and fast transaction speeds, make it an attractive payment and investment option for businesses and individuals looking to reduce their transaction costs and process high volumes of transactions quickly.

Keywords—Pi Network; Cyber attack; Cryptocurrency; Pi Economic model; Cryptocurrency Mining

I. Revolutionizing the Future of Cryptocurrency

The cryptocurrency ecosystem has grown rapidly in recent years, but many people still find it too complex and difficult to participate in. Pi Network was founded to make cryptocurrency accessible to everyone. The project aims to create a decentralized and trustless network that is easy to use and can be run on mobile devices.The Pi Token Model, Mining Mechanism, and Roadmap were released on December 28, 2021, along with the Enclosed Mainnet by Pi Network. Based on community input and information acquired throughout the Enclosed Mainnet phase, which is still in draught form, is constantly being updated.

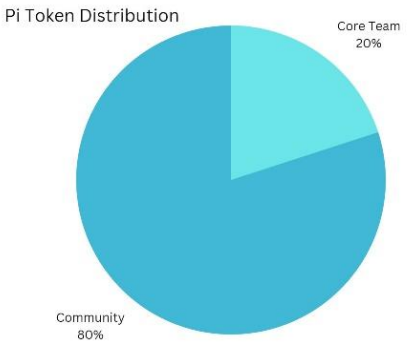

Fig 01. Pi Network and its Contribution

Token Mining and Model:

A cryptocurrency network's success depends on having well-thought-out, reliable token designs. It can incentivize network formation and expansion, develop an ecosystem centered around utilities, and afterward sustain the cryptocurrency powering such a system. What a network rewards reveals a lot about what a network needs, such as network expansion, utility creation driven by fundamentals, a simple store of value, or a form of trade for the crypto native ecosystem. This chapter discusses the availability of Pi, how Pioneers can mine Pi at various stages of the network, and the underlying design principles for various mining processes, including those used to expand the network and encourage the development of an ecosystem centered on utilities.

Community Allocations	**Pi Community Distribution (Out of Projected 80 Billion Pi Total)**
Pre-mainnet Mining Rewards	20 billion Pi (approx.)
Mainnet Mining Rewards	45 billion Pi (approx.)
Liquidity Pool reserve	5 billion Pi
Foundation reserve (Grants, Community events, etc.)	10 billion Pi

Fig 02. Pi Network Distribution

Pi – Token Supply:

Token Emission Policy

1. Total Max Supply = M + R + D
    1. M = total mining rewards
    2. R = total referral rewards
    3. D = total developer rewards
1. $M = \int f(P)\, dx$ where f is a logarithmically declining function
    1. P = Population number (e.g., 1st person to join, 2nd person to join, etc.)
1. R = r * M
    1. r = referral rate (50% total or 25% for both referrer and referee)
1. D = t * (M + R)
2. t = developer reward rate (25%)

M – Mining Supply (Based on fixed mining supply minted per person)
R – Referral Supply (Based on fixed referral reward minted per person and shared b/w referrer and referee)
D – Developer Reward Supply (Additional Pi minted to support ongoing development)
f is a logarithmically decreasing function – early members mine more

Pre-Mainnet Formula:

M = I (B, S) + E(I), where

- M is the total Pioneer mining rate,
- I is the Individual Pioneer base mining rate,
- B is the systemwide base mining rate,
- S is the Security Circle reward, which is a component of the individual Pioneer base mining rate from valid Security Circle connections, and

- E is the Referral Team reward from active Referral Team members.

Engaged Pioneers Milestone	<1,000	1,000	10,000	100,000	1,000,000	10,000,000
Value of B (in Pi/hr, rounded to two decimals)	3.14	1.57	0.78	0.39	0.19	0.10
Value of I, with full Security Circle (in Pi/hr, rounded to two decimals*)	6.28	3.14	1.57	0.78	0.39	0.19

Fig 02 Pi Network Calculation

II. Pi Economic Model:

Pi Network's economic model is unique as it allows users to mine cryptocurrency using their mobile phones. It has a limited supply of 10 trillion, which helps to prevent inflation. Users are rewarded for their contributions to the network, such as inviting friends to join and pressing a button to mine Pi daily. The amount of Pi earned depends on the number of users in the network and the user's contribution level. Pi Network is designed to be decentralized to prevent centralization and abuse of power.

Challenges and Limitations of Cryptocurrency Mining:

Cryptocurrency mining is complex and requires specialized hardware and significant energy consumption, making it difficult for the average person to participate. Pi Network aims to solve this problem by allowing users to mine cryptocurrency using their mobile phones, making it more accessible. It also aims to address centralization in cryptocurrency mining by promoting decentralization. However, there are potential challenges, including a highly centralized economic model, limited use cases, security risks, unproven technology, regulatory challenges, lack of transparency, and questions about its value proposition compared to established cryptocurrencies.

Pi Network's Innovative Consensus Algorithm

"Proof of Work," the consensus mechanism used by Pi Network, is intended to be power-efficient and portable. The project also includes plans for community development and governance, with the goal of establishing a decentralised governance framework where users may influence the project's path. Pi Network has created a variety of cutting-edge solutions to the problems that traditional bitcoin mining faces.

Solution 1: Promoting Decentralization

To address this, the Pi Network allows anyone with a mobile phone to mine cryptocurrency. This promotes decentralization by making mining accessible to a wider range of individuals and ensures that the network is not controlled by a small group of individuals or organizations.

Solution 2: Increasing Accessibility

The Pi Network has developed a system of trust levels that rewards users who are active and engaged in the community, which helps to ensure that the network remains secure and stable while also giving incentives for users to participate and contribute. In order to address this, the Pi Network allows users to mine cryptocurrency using their mobile phones, making mining more accessible and ensuring that anyone with a mobile phone can participate in the mining process.

Solution 3: Enhancing Security

Additionally, the Pi Network has implemented a system of nodes that are responsible for verifying transactions and maintaining the network. These nodes are selected based on their trust level, and users can earn trust by participating actively in the community.

How Pi Network Is the Future of Business Transactions

Pi Network offers low transaction fees and fast transaction speeds, making it an attractive payment option for businesses and individuals looking to reduce their transaction costs and process high volumes of transactions quickly. It is also decentralized and secure, resistant to hacks and cyber-attacks, and uses an energy-efficient consensus algorithm, making it less harmful to the environment. Additionally, Pi Network offers incentives for early adopters, allowing businesses to earn Pi tokens that can be traded for other cryptocurrencies or fiat currencies, making it an attractive investment option.

Fig 03 Pi-network Benefits

III. Pi Network: Your Opportunity to Shape the Future of Digital Transactions

If you are interested in joining the Pi Network and exploring its benefits for your business. As an early adopter, you will have the opportunity to earn Pi tokens, which can be traded for other cryptocurrencies or fiat currencies. Additionally, you can help to grow the network by inviting friends and colleagues to join and contribute to the community. By joining the Pi Network, you can be a part of a revolutionary new way of conducting secure and efficient transactions that have the potential to change the way we do business and interact with each other.

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