Cardano

Lesson 13

As we write this lesson, on the evening of February 20, 2024, Bitcoin has been driving considerable interest in cryptocurrency.

Earlier this morning, the market valued Bitcoin at more than $53,000 a coin. A few hours later, the coins were trading for less than $51,000 a coin. As I began writing this lesson, at 5:57 in the evening, the Coinbase exchange valued Bitcoin at $52,146.84.

What's the fair market value for cryptocurrency?

It's the same value as any other asset. It would only be worth what the next person would be willing to pay, at a specific point in time. I did not buy Bitcoin today. In light of our previous lesson on NFTs, however, I did purchase my first altcoin.

In an earlier lesson, I wrote about Alex, a fictionalized example of a person who converted his reading into a Non Fungible Token (NFT). Ryan encouraged me to convert our lesson plans on the digital economy into an NFT. I began that process today.

I will continue using DeFi as a resource to change America's prison system, as I'll try to show through future lessons.

Before I could mint the course into an NFT, I would need to finish writing the course–or at least the first version of the course. In anticipation of completing the course by early March, I started by opening a digital wallet on Meta Mask. In a future lesson, I'll write more about digital wallets and why they're necessary to understand and use in the digital economy. Since I would need to fund the wallet with an altcoin, I purchased one Ethereum coin today–an ETH.

I understood that the price of ETH could go up or down before I was ready to mint the NFT, but like the volatility of Bitcoin, I anticipated that over time, the value of ETH would move in an upward trend.

Later, after I complete the first series of lessons for this course, I will go through the minting and publishing process of the NFT, and share what I learned in a future lesson.

I hope that others will learn from this practical application of using the digital economy to create an asset and, hopefully, a new income stream, which I will donate to fund our nonprofit.

For the remainder of this lesson, let's turn our focus to another altcoin, Cardano (ADA). It's described as a groundbreaking platform that combines pioneering technologies with a vision for a more secure and sustainable blockchain ecosystem. This lesson delves into Cardano's origins, its distinctive features, and its potential to revolutionize how we interact with blockchain technology.

The Start of Cardano

Developers of Cardano wanted to address the challenges faced by earlier blockchain platforms, such as:

- scalability,
- interoperability, and
- sustainability.

Charles Hoskinson, one of Ethereum's co-founders, launched Cardano in 2017. He grounded the altcoin's development in academic research and

peer-reviewed studies, setting it apart as the first blockchain platform to adopt a scientific philosophy and a research-first approach.

The Cardano Difference: Ouroboros Proof-of-Stake

At the heart of Cardano's innovation is the Ouroboros consensus mechanism, a highly secure and environmentally sustainable alternative to the traditional proof-of-work model. Ouroboros enables Cardano to achieve scalability and reduce energy consumption without compromising security. This proof-of-stake protocol is a cornerstone of Cardano's architecture, designed to support the creation of decentralized applications (DApps) and smart contracts with unparalleled efficiency and reduced carbon footprint.

Cardano's Layers: Separating Settlement and Computation

Cardano's blockchain is uniquely structured in two layers: the Cardano Settlement Layer (CSL) and the Cardano Computation Layer (CCL). This separation allows for more flexibility in how transactions and computational logic, such as smart contracts, are processed. The CSL facilitates direct ADA transactions quickly and securely, while the CCL hosts smart contracts and DApps, enabling a wide range of decentralized financial and business applications.

To illustrate a practical use of Cardano, consider it as a decentralized finance (DeFi) platform for a lending scenario that will show how to use ADA beyond simple transactions, leveraging Cardano's smart contract capabilities to enable financial services.

Example of Practical Use for DeFi: Reintegration Finance on Cardano

I discussed with Ryan a practical approach for using DeFi to resolve problems for justice-impacted people.

Imagine a DeFi platform named "ReFiRe" (Reintegration Finance on Cardano), specifically designed to assist people who complete Prison Professors' courses on preparing for success upon release. We want to incentivize excellence, helping people secure financing for reintegration purposes without relying upon the government. We could assist people who want to resolve problems with:

- housing,
- education, or
- starting a business.

Leveraging Cardano's smart contract technology, ReFiRe would aim to offer a discrimination-free, transparent, and secure lending environment for those who have a demonstrated history of preparing for success after prison.

Step 1: Onboarding and ADA Collateralization

- Participants' Perspective: John, recently released from prison, finds it challenging to secure a loan due to his criminal record. Traditional financial institutions either deny his applications or offer loans with prohibitive interest rates. John learns about ReFiRe and decides to participate.
- Community Support: Our nonprofit launches ReFiRe. We generate community support to fund operations. Community members and supporters deposit ADA into the platform to fund loans. These members believe in supporting reintegration efforts and earn interest on their contributions.
- John memorialized his progress in prison through our platform, Prison Professors Talent. Upon his release, he joined ReFiRe and completed a simple, blockchain-based KYC (Know Your Customer) process that respected his privacy while ensuring platform integrity. He applied for a loan for vocational training, depositing a small amount of ADA as collateral, which he managed to save or was donated by charitable supporters of the platform.

Step 2: Smart Contract Loan Management

- The ReFiRe platform, powered by Cardano smart contracts, automatically matched John's loan request with available funds. The smart contract outlined the terms, such as the loan amount, interest rate (kept reasonable to support reintegration), and repayment schedule.
- Loan Disbursement: Upon agreement, the smart contract disbursed the loan to John in ADA or a Cardano-based stablecoin, enabling him to pay for his vocational training.

Step 3: Repayment and Community Support

- Repayment: John started his vocational training, and upon completion, secured employment. He began repaying the loan according to the agreed schedule. The smart contract automatically distributed repayments to the community lenders, including interest.
- Success Stories: As more individuals like John successfully reintegrated and repaid their loans, Prison Professors shared the success stories within the ReFiRe community, encouraging more participation and support, thus growing the fund available for future loans.

Benefits of ReFiRe

- Accessibility: By removing the traditional barriers to financing, ReFiRe provides formerly incarcerated people with a fair chance at reintegration, supporting essential needs like education, housing, and entrepreneurship.
- Transparency and Security: Cardano's blockchain ensured that all transactions and agreements were transparent, secure, and immutable, fostering trust among all parties involved.
- Community Empowerment: ReFiRe not only helped individuals in need but also empowered the community to contribute positively to the reintegration process, creating a supportive ecosystem around shared goals.

This scenario illustrated how Cardano's DeFi capabilities could be harnessed to create inclusive financial solutions that addressed societal challenges, such as the reintegration of formerly incarcerated individuals. By leveraging smart contracts, ReFiRe offers a model for how blockchain technology could facilitate meaningful social impact and financial inclusion.

ADA: More Than Just a Cryptocurrency

ADA, named after the 19th-century mathematician Ada Lovelace, is the fuel that powers the Cardano ecosystem. ADA holders could participate in the network's governance, influence the platform's future development, and use ADA for transactions, smart contracts, and DApps within the Cardano network.

Cardano's Vision for the Future

Developers geared Cardano's ambitious roadmap toward creating a more accessible, equitable, and transparent financial system. With initiatives aimed at bringing banking services to the unbanked populations of the world and creating a secure digital identity, Cardano is poised to make a significant impact beyond the cryptocurrency market, potentially transforming global finance, healthcare, education, and more.

The Road Ahead

As Cardano continued to evolve, with ongoing development phases aimed at enhancing the platform's capabilities, its potential to reshape the blockchain landscape remained vast. The dedication to rigorous scientific research, combined with a clear vision for a more sustainable and equitable digital economy, positioned Cardano as a fascinating subject of study and participation in the cryptocurrency world.

Cardano's journey from concept to one of the leading blockchain platforms exemplified the potential of cryptocurrencies to drive innovation and address some of the most pressing challenges of our time. As we explore further into the world of altcoins, let Cardano's story inspire you to consider the transformative possibilities of blockchain technology.

In our next lesson, we'll discuss Chainlink (Link), another altcoin to teach more about the digital economy.

Investment:

On Tuesday, February 20, 2024, at 6:10 pm Pacific time, the price of Bitcoin settled at $52,123.40.

- Total investment in BTC at end of day, February 19, 2024: $192,202.76.
- Total holdings: 4 BTC
- Total value: $208,333.60
- Gain or Loss: $16,130.84

The value of my holdings surpassed the total amount that I had paid by $16,130.84 since I began investing in cryptocurrency, on January 31, 2024.

Separately, I purchased 1 ETH. It was valued at $2,954.74 and Coinbase charged me a fee of $66.48. My total investment: $3,021.22. Value of ETH at end of day: $2,997.11.

» Value of ADA: $0.61

Disclaimer:

For full transparency, I am not an investment advisor. Our nonprofit, Prison Professors, offers these lessons for the singular purpose of helping people learn more about the digital economy. I provide information on my personal investments to show that even a person who served 26 years can participate in the digital economy. I am an investor and a speculator, understanding the risks. No one should invest in any asset class without a strategy and a plan, as shown through our introductory course: Preparing for Success after Prison. Always develop an understanding of investment risks—especially with cryptocurrency.

Critical Thinking Questions:

1. How does Cardano's research-first approach influence its development and potential impact on the blockchain industry?
2. Consider the implications of the Ouroboros proof-of-stake mechanism on energy consumption and blockchain sustainability. What benefits does this bring to the Cardano ecosystem and the broader digital environment?
3. In what ways could Cardano's focus on creating a more equitable global financial system transform traditional banking and finance sectors?

Advocacy Initiative:

Please share your story and responses through the manner that works best for you:

1. Send through email to Interns@PrisonProfessorsTalent.com
   Subject line: Digital Economy Course
2. Send through regular mail:
   Prison Professors
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» Lesson 13: Cardano (ADA)

» Lesson 14: Chainlink (Link)