Quantopia Network

Professional Asset Management for the General Public with Asynchronous Price Discovery of Self Generated Smart Tokens

August 03, 2017

Draft 1.42

Table of Contents

Table Contents

What is Quantopia Capital Managers

Since the beginning of the hedge fund industry, they have only been accessible by "Accredited" investors(the ultra wealthy). To be an accredited investor you need to have an income of greater than $200,000 or a net worth of over $3,000,000. Quantopia Capital Managers aims to flip the industry on its head by allowing anyone to invest in a fund manager no matter what their net worth or income is. Quantopia allows successful traders with verifiable historic profitability to create their own token that investors can buy. These tokens are based on the Bancor Protocol:

"The Bancor protocol enables built-in price discovery and a liquidity mechanism for 1 tokens on smart contract blockchains. These "smart tokens" hold one or more other tokens in reserve, and enable any party to instantly purchase or liquidate the smart token in exchange for one of its reserve tokens, directly through the smart token's contract, at a continuously calculated price, according to a formula which balances buy and sell volumes." Mathematical Proof.

When the fund manager is profitable their tokens reflect that success in the price. Quantopia Capital Managers is a place where the general public has access to the world's top money managers no matter what their level of investment or net worth is. It allows everyone to invest in top performing traders and investment managers and share along in the profits. You can purchase Quantopia Capital Managers Tokens (QUANT) in the ICO. Quantopia allows holders of QUANT to invest in fund managers and profit in their trading strategies.

Case Study Coming in Draft 1.43

Elevator Pitch Summary

Quantopia Capital Manager's brings hedge fund wealth management to the blockchain. It allows anyone to invest in top performing hedge fund managers as well as successful cryptocurrency traders. Before the Quantopia Network, only "accredited investors" (networth >$3m) were allowed to invest in these products. Hedge funds were exclusive to the ultra wealthy, but now because of Quantopia, everyone has equal access. Through Quantopia CM investors can choose what fund or manager they would like to invest in and do so using Quantopia's token (QUANT).

Investing

To start investing in the desired fund manager/portfolio one will have to fund their account with QUANT. Then the managers that have applied to have their portfolio listed on our site can be invested in. To be listed as a Quantopia Portfolio Manager one must undergo an in depth trading history audit done by a third party auditor (see "Third Party Auditor"). Once listed on the Quantopia Network that fund manager will be issued a token based on the Bancor Protocol (see "Automatic Smart Contract Generation"). This token will have a base book value of QUANT per token and their value will fluctuate based on the manager's investment performance. The general public will be able to invest in their desired fund manager's portfolio with QUANT. That portfolio can go up or down based on how the manager' trading profits.

Investor Protection

In order to avoid theft by the managers their trading accounts will be owned and created by Quantopia and a login and trading password will be given to them. Managers will only be able to trade between assets. A funding password and two-factor authentication will be enabled on the account to avoid theft. Also a smart contract to control the funds and their migration capabilities will be used. This same smart contract will reflect the price of that portfolio's tokens based on the performance of the traders (see "Asynchronous Price Discovery").

What Problem Does the Quantopia Network Solve

Currently there are thousands of people and corporations that invest capital with the goal of generating a positive return. These corporations are most commonly structured as hedge funds. Hedge funds have capital requirements and are very selective of their clientele. In most countries around the world they are legally only allowed to have “accredited” investors. This means that hedge funds can only be invested in by people with networths of over $3 million. It is currently prohibited to invest fiat currencies for individuals without structuring a corporation as a hedge fund. The paperwork, registration fee, and legal documents can cost upwards of $5 million alone. This is a very inefficient method to attract top talent. Porter's Five Forces are all highly in favor of Quantopia becoming the leading asset management network worldwide:

1. Competitive Rivalry: Traditional hedge funds and wealth management vehicles. Little to no competition because they cannot target non accredited investors.

2. Power of Supplier: SEC laws and regulations are very high thus creating a difficult industry to enter and succeed. Quantopia is not regulated by the SEC due to not dealing in fiat currencies.

3. Power of Buyer: Very difficult to switch between funds as the vast majority lock up funds or reserve the right to not release your funds for a given amount of years.

4. Threat of Substitution: Low due to many copycat funds. Quantopia is the first of its kind on the blockchain and aims to be provide the best cryptocurrency wealth management solutions worldwide.

5. Threat of New Entry: Quantopia is the first platform in the blockchain universe that allows traders to manager the general public's cryptocurrencies. Being the first will afford us certain luxuries such as becoming well established and gaining customer support before any competition arises.

With such high barriers to entry the asset management industry has become inefficient and outdated. Large amounts of capital and time are needed to invest in hedge funds and their managers. Quantopia Capital Managers revolutionizes the investment industry. By using the power of blockchain technology Quantopia allows anyone to invest in the world’s best performing investment professionals.

With the zero startup cost Quantopia allows the natural laws of supply and demand to work and top performers will be invested in while underperformers will not.

How to Become a Fund Manager

In order to become a fund manager on the Quantopia Network your portfolios must pass a series of rigorous audits and tests. We understand that trading strategies are extremely valuable and that protecting their intellectual property is of the utmost concern. We are working to secure a partnership with Deloitte to have them audit would be PM's track records. They are trusted by some of the world's largest institutions and are a reliable unbiased third party.

What Information is Needed

In order for Deloitte to audit a manager's trading history to ensure the credibility of their stated returns our auditor will need to have access to:

- Manager's exchange's trading history(as provided by them) as well as signed documentation from the manager with their consent for the auditor to acquire these documents from the exchange directly. This ensures the credibility of documentation.

- Any transfers of funds in and out of the exchanges account.

- *Only required if using a quantitative trading strategy. The code for any algorithm applied by the manager (to ensure reliability and that it is indeed a predictable algorithm)

About QUANT

Quantopia Capital Manager's Token, or the symbol for short QUANT, allows investors to invest in a money manager's portfolio no matter what their initial investment amount is. Quantopia provides a platform for successful traders and investors to invest capital for the general public. Managers that have a documented successful history of generating profitable returns can sign up to be on the Quantopia Network. After the rigorous audit to ensure the credibility of their returns, their portfolio is listed on the Quantopia Network for the public to start investing in. QUANT is the root currency that the Quantopia Network will operate on and the initial way that investors on the Network can invest in managers

Portfolio Manager's (PM's) Compensation

During the portfolio creation process PM's select what percent performance fee the portfolio will automatically deduct from returns. This can range from 0% to a maximum of 50%. While performance fees are not an ideal system they has been proven to align PM's interests with that of investors since the rise of hedge funds in 1949.[1]

Issuable Tokens

- 31,415,926 Issuable QUANT
- Represents the first 8 digits of Pi

Quantopia.Network

Quantopia will provide users a top tier platform that allow them to backtest virtually any strategy in the CryptoCurrency markets. They will have access to institutional grade tools and data that will allow them to develop high caliber investment strategies. To provide this service we are partnering with Quantopian and licensing their platform. Transitioning this quantitative algorithm backtester to the cryptocurrency markets from the financial and equity markets will take significant investment. Although difficult, this goal is very attainable.

---

[1] http://business.financialpost.com/investing/how-fees-align-managers-with-their-clients-2

The Math

QUANT can be used to invest in a specific portfolio on the Quantopia Network. How this is actually accomplished is that when a manager is approved and listed on the Quantopia Network they are issued a Smart Token. A smart token in it's simplest form is a smart contract that creates new tokens when purchased with QUANT and destroys tokens when sold for QUANT. This Smart Token automatically is linked to the PM's investment accounts and tracks their portfolio performance. The performance is then reflected in the Smart Tokens price. To price the Smart Tokens correctly QUANT will apply the Bancor Protocol for dynamic asynchronous price discovery.

A New Method for Price Discovery Based on the Bacor Protocol:

"A smart token utilizes a novel method for price-discovery which is based on a "Constant Reserve Ratio" (CRR). The CRR is set by the smart token creator, for each reserve token, and used in price calculation, along with the smart token's current supply and reserve balance, in the following way:

$$Price = \frac{Balance}{Supply \times CRR}$$

This calculation ensures that a constant ratio is kept between the reserve token balance and the smart token's market cap, which is its supply times its price. Dividing the market cap by the supply produces the price according to which the smart token can be purchased and liquidated through the smart contract. The smart token's price is denominated in the reserve token and readjusted by the smart contract per each purchase or liquidation, which increases or decreases the reserve balance and the smart token supply (and thus the price) as detailed below.

When smart tokens are purchased (in any of their reserve currencies) the payment for the purchase is added to the reserve balance, and based on the calculated price, **new smart tokens are issued** to the buyer. Due to the calculation above, a purchase of a smart token with a less than 100% CRR will cause its price to increase, since both the reserve balance and the supply are increasing, while the latter is multiplied by a fraction

Similarly, when smart tokens are liquidated, they are **removed from the supply** (destroyed), and based on the current price, reserve tokens are transferred to the liquidator. In this case, for a smart token with a CRR less than 100%, any liquidation will trigger a price decrease.

This asynchronous price-discovery model works by constantly readjusting the current price toward an equilibrium between the purchase and liquidation volumes. While in the classic exchange model price is determined by two matched orders in **real-time**, smart token prices are calculated **over-time**, following every order."

Legal Disclaimer:

Quantopia CM token (QUANT) is not a means of payment, cryptocurrency, security and is not subject to the law, regulating the financial market, cash transactions, the securities market of a country, it is considered to be intangible property (asset) that is freely traded and purchased as property, and is exchanged for other material benefits under certain conditions described in this document. The buyer of the token (investor) is aware of the legal risks associated with ICO and is solely liable in the event of claims of non-compliance with his country's legislation related to the purchase of such kind of tokens. The ICO organizer and the seller of the tokens disclaims any responsibility for the decision to purchase the token and is not liable for any losses or other damages caused to the buyer at or after the purchase (investment). The investor is aware that the purchase (investment) of the tokens traded under ICO is a high-risk investment and the investor can incur losses up to the total loss of the invested funds. The ICO organizer and the token seller reserves the right to collect information identifying the investor before sending him the purchased token. The token buyer (investor) is fully responsible for keeping passwords and private keys to the token storage (wallet) on the blockchain. The ICO organizer and the token seller and the buyer (investor) of the tokens have agreed that the buyer's address for sending the tokens belongs to the buyer and is fully accessible. The buyer has no right to claim for the absence of the tokens sent to this address by the ICO Organizer and the seller, If the transactions are confirmed on the blockchain