

The insights into 4thtech platform (TX_FEE) tokenization business model

[research article by Dr. Tali Rezun and Denis Jazbec]

Abstract;

A business model is a concept of strategies implemented by a company to create a profit, by providing a product or a service, while a token model defines the purpose of the token and its utility as a fundamental part of the tokenized business model.¹ The top three valuable variables a token must have are features, proper role, and purpose.² 4thtech creates value by connecting electronic data senders and recipients into a marketplace, enabling them to exchange sensitive data and documents securely, using FOUR tokens as GAS and DISCOUNT features.

About the project;

4thtech leverages trust provided by the blockchain to provide secure, immutable, instant cross-border electronic data and document exchange and eDelivery. Additional Notarisation features enable users to access the document time-stamp and verify its authenticity via file checksum. 4thtech identification mechanism verifies and maps the connection between a blockchain wallet and a person, utilising the X.509 digital certificate standard.

Keywords; blockchain, tokenization, business model, tokenization model, public blockchain, cryptographic token, private blockchain, 4thtech

¹ <https://link.medium.com/5yBf3bJuVcb> [accessed 10 January 2021]

² <https://www.blockchain-council.org/blockchain/the-best-blockchain-business-models/> [accessed 18 January 2021]

Introduction;

Blockchain technology enables an alternative incentive mechanism through tokenization.³ Tokenization addresses the weaknesses such as cybersecurity and disintermediation while enabling advantages such as; (1) 24/7 borderless access; (2); the speed of execution (3) lower transaction (i.e. TX) cost; (5) scalability, and; (6) transparency.

The 4thtech 2.0 platform tokenization business model serves as a tool to specify main aspects of FOUR token economies; (1) token attributes and specification; (2) token purpose and utility, and; (3) model economics.

Attributes and specification of FOUR tokens;

- Blockchain: Ethereum
- System: ERC20
- Role: Active (i.e. FOUR acts as GAS, unlocks user TX DISCOUNTs and acts as a vital process technical component)
- Total supply: 400.000.000
- Divisibility: 18 decimals
- Source:
0x4730fb1463a6f1f44aeb45f6c5c422427f37f4d0⁴

Token purpose;

The FOUR tokens have been developed and deployed in 2018 as one of the technical components needed for platform TX tokenization and enable three

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<https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/risk/deloitte-nl-risk-tokenization-paper-final.pdf> [accessed 22 January 2021]

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<https://etherscan.io/token/0x4730fb1463a6f1f44aeb45f6c5c422427f37f4d0> [accessed 22 January 2021]

functionality drivers used on public-chains; (1) embedded TTS interface (i.e. token teleportation-service); (2) MTO (i.e. multiple-transfer option), and; (3) tokenization with a GAS and DISCOUNT feature used for electronic data and documents exchange TX.

Embedded TTS interface or token teleportation-service, enables 4thtech wallet accounts with the ability to use ERC-20 FOUR tokens for GAS to execute electronic data and document exchange without having to pay for the native blockchain network TX FEEs. Instead, the account pays for TX FEEs in the 4thtech native FOUR tokens. 4thtech handles the settlement in the background.

MTO or multiple-transfer option is a settlement service that conserves blockchain network TX and bundles signed multiple TX together and settles them on the blockchain (i.e. as one TX). Once the TX has been settled, the TX is concluded. The bundling of TX enables 4thtech platform to scale as the overall number of TX generated on the designated blockchain network is kept at a minimum.

Tokenization model and utility;

The utility token model enables the monetisation of transactions through the use of tokens. A tailored-made TX-based tokenization platform business model was created to address the 4thtech monetisation challenge. The model enables users to “fuel the electronic data and documents exchange TX using FOUR tokens as GAS. The FOUR token flow can be described as “circular”, as the constant flow of FOUR tokens going through the payment of 4thtech services FEEs, creates a circular token economy which incentivizes the users

of the platform with the discounted TX prices. A New TX tokenization model was introduced in 4thtech 2.0, which allows users to receive DISCOUNTs when holding or settling for 4thtech services FEEs in FOUR, furthermore, service payments are possible also in native chain tokens (i.e. ETH, EDG) but without the 4thtech services FEE DISCOUNT. The tokens collected for the service will: (1) be returned into the economy of the project, and reused as transaction GAS; (2) be used as one of the project's future revenues streams. No tokens will be burned.

Services FEEs;

4thtech charges services FEEs in cryptographic tokens to execute electronic data and documents exchange. The services FEEs using 4thtech platform deployment on public chains (i.e. Ethereum, Polkadot Edgeware, Other...) are based on two factors; (1) blockchain network TX cost, and; (2) added 4thtech service FEE.

Blockchain network TX cost is based on two smart contract (i.e.SC) TX needed to execute electronic data and document exchange (i.e. FOURdx). The first TX saves the data of the electronic file of the document to the SC as the second TX sends the transaction FEE in native token to the solution FEE_TAKER address (viable in public blockchain transactions).

4thtech FEE is defined in FIAT but converted in ETH, EGD or FOUR based on current exchange rate. (TX GAS_PRICE FEE depends on the blockchain network used). In the case of TX payments in FOUR, GAS_PRICE depends on the ETH blockchain network.

FEE calculation overview;

*First SC TX + Second SC TX = Total blockchain network SC TX FEE cost
*SM TX FEE cost + 4thtech service FEE surcharge = Total user FEE cost

Calculation formulas;

*txCostBase = GAS_UNITS * GAS_PRICE
(ETH TX calculation cost formula without 4thtech service FEE)

*txCostBaseFee = txCostBase + (NATIVE_FEE * FEE_ADDITION_FACTOR) (ETH TX calculation cost formula with 4thtech service FEE)

*txCostFourFee = txCostBase + NATIVE_FEE;

Explainers;

*GAS_UNITS: The amount needed to execute blockchain TX for 4thtech electronic data and documents

*GAS_PRICE: refers to the FEE, or pricing value, required to successfully conduct a TX or execute a contract on the blockchain network. Pricing value correlates with network congestion⁵

*NATIVE_FEE: 4thtech service TX FEE (e.g. 0.5€)

*FEE_ADDITION_FACTOR: DISCOUNT factor added if FOUR is used to settle the TX cost. (e.g. 1.3 for 30% added FEE when settled in ETH)

ETH settlement formulas;

*txCostFeeTakerETH = GAS_UNITS * GAS_PRICE (FEE transfer TX price)

⁵ <https://ethgasstation.info/> [accessed 22 January 2021]

*txCostDocumentETH = GAS_UNITS *
GAS_PRICE (electronic data and document
blockchain record TX cost)

*txCost = txCostFeeTakerETH +
txCostDocumentETH + (NATIVE_FEE *
FEE_ADDITION_FACTOR) (total cost
equals the sum of TX FEE cost and the cost
of electronic data or document blockchain
record cost with added FEE_FACTOR)

ETH settlement formula when using FOUR;

*txCostFeeTakerFOUR = GAS_UNITS *
GAS_PRICE (FEE transfer TX cost)

*txCostDocumentFOUR = GAS_UNITS *
GAS_PRICE (electronic data and document
blockchain record TX cost)

*txCost = txCostFeeTakerFOUR +
txCostDocumentFOUR + NATIVE_FEE
(total cost equals the sum of TX FEE cost
and the cost of electronic data or document
blockchain record cost with added FEE)

ETH settlement USE CASE when using FOUR;

Let's assume that:

FOUR = 0.02 €
NETWORK TX = 0.0005 ETH
4THTECH FEE = 0.2 € (if settled in ETH,
EDG...)
4THTECH DISCOUNT FEE = 0.1 € or 5
FOUR (if settled in FOUR)
TOTAL USER TX COST = 205 FOUR

(final FEE cost will be fixed parallel with
4thtech 2.0 deployment)

SUBSCRIPTION and TRANSACTION based pricing models;

(1) The 4thtech SUBSCRIPTION pricing
model is based on the private permissioned
blockchain and most suitable for regulated
users from the private, public sector and
civil society.

(2) The TRANSACTION pricing model is
based on the network TX (i.e. PAY_PER
TX). Used on public permissionless
blockchains and most suitable for users that
have the necessity for traceability and
transparency of executed TX.

Both models are viable, as users are
coming from two completely different
groups. The trade-off is between low-cost
private-chains with no open TX traceability
and public-chains with volatile and in most
cases higher prices but publicly traceable
TX.⁶

(1) SUBSCRIPTION-based permissioned pricing model;

Based on the chosen monthly subscription
plan, the user will be charged a periodic
FEE for electronic data and document
exchange TX. The FIXED periodic FEE is
specified based on the subscription plan.

Tier subscription plan;

- Tier 1: Pay as you go
- Tier 2: 1000 to 5000 TX
- Tier 3: 5000 to 10.000 TX
- Tier 4: 10.000 to 50.000 TX
- Tier 5: Enterprise

Specifications;

- Network: HashNet protocol

- Network type: private-blockchain
- Speed: 50.000 TX per SEC
- Actual TX cost: defined by subscription plan
- FEE: defined by subscription plan
- TX payment: FIAT
- Price calculation: STATIC, determine by subscription plan

Benefits;

- Fixed price, no volatility
- Fixed speed and performance
- Immutable
- Decentralized
- High customizability
- Better Scalability

(2) TRANSACTION-based permissionless revenue model;

The user will be charged for 4thtech services. The TX FEE is used for GAS to fuel the public chain TX, so the 4thtech revenue comes from charging an additional margin on the main chain TX GAS FEES. 4thtech FEE is defined in FIAT but converted in ETH, EGD or FOUR based on current exchange rate and the network of use.

Specification;

- Network: Ethereum, Polkadot Edgeware, Other...
- Network type: public-blockchains
- Speed: depends on the network stress
- Actual TX cost: variable, per transaction (determined by the blockchain of deployment TX cost)
- FEE: defined in FIAT but converted in ETH, EGD or FOUR based on current exchange rate

- TX payment: FOUR, ETH, EDG, Other... (available in 4thtech 2.0)
- Price calculation: DYNAMIC (each time a user connects, current transaction price shows).

Benefits;

- Multi-blockchain availability
- Permissionless
- Transparent
- Immutable
- Decentralized
- Self-integration (infrastructure and developer tools will be available publicly)
- Users transaction DISCOUNT when using FOUR (available in 4thtech 2.0)

Disclaimer;

4thpillar technologies (i.e. 4thtech) is a blockchain technology innovation and development initiative. Its main focus goes to the development of future experimental blockchain technology. 4thtech does not sell four-tokens, guarantee or influence the token price or deal with financial or trading token elements, nor offer any licensed financial services, such as investment or brokerage services, capital raising, fund management, or investment advice. The content of this article is provided for information purposes only and is not to be used or considered to be an investment recommendation or an offer or solicitation to buy, sell or subscribe to any securities or other financial instruments. As we are dealing with experimental technology malfunctions can accrue, furthermore, the 4thtech initiative can not guarantee any deliverable deadlines as unexpected technical complications can appear.⁷

Bio;

Dr. Tali Rezun: started his entrepreneurial

⁷ <https://the4thpillar.io/terms-of-use/> [accessed 24 January 2021]

career at the age of 18 and grew his business organically until this day. Under the domain of Cotrugli Business School, Tali finished his Business Master (i.e. EMBA) and later in 2018 his Business Doctorate (i.e. DBA). Dr. Rezun specializes in online technologies with focus on brand awareness, web application development and blockchain technology. He enjoys the title of lecturer, advisor and UN/CEFACT expert. Currently, Dr. Rezun publishes articles associated with his expertise, serves as project consultant and appears as a guest speaker to the media. Dr. Rezun is one of the main founders of the 4thpillar technologies and holds the title of Council Chair.⁸

Denis Jazbec is a software engineer with more than a decade of experience and a computer science degree. As 4thtechs CTO, he is researching and developing blockchain and DLT solutions and acts as a main solution architect. Denis single handedly innovated the 4thpillar solution for blockchain electronic data wallet exchange. He is highly proficient in PHP, JS, Vue.js, Typescript, MySQL and specializes in IT infrastructure, DLT networks and blockchain implementation, while developing in-depth knowledge on multi-blockchain processes and transactions, which makes him an expert in its field.

⁸ <https://talirezun.com/> [accessed 24 January 2021]