Crypto Exchanges – Overview and Challenges of the Landscape

This article is an extract of the CH Alliance yearly publication on Innovation for Financial Services. This 2019 edition includes several articles on the “Tokenization” of the economy, expressed by the Initial Coin Offering (ICO) wave, which is now becoming a semi-regulated activity in major financial centers - the first step to global recognition. The remaining articles provide insights on hot topics for several Financial Services sub industries: AI for Wealth Management, chatbots in B2C Banking, autonomous vehicles and catastrophe bonds in Insurance, hot Fintech for Real Estate finance management and data visualization in CIB.

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Crypto Exchanges – Overview and Challenges of the Landscape

Cryptocurrency trading took the world of Finance by storm with billions being invested by individuals.

Despite this, major players have been reluctant to engage in this unstable market, which could prevent mainstream acceptance.

In 2017, trading Bitcoin, Ethereum, Ripple XRP and other cryptocurrencies became a mainstream obsession, including major incumbents.

Investment bank Goldman Sachs is exploring different leads in this booming industry. Whilst first showing interest in a crypto trading venture back in October 2017, it was reported to launch a cryptocurrency trading desk instead in the summer of 2018. According to Bloomberg, the bank is also allegedly devising a cryptocurrency custody service. This might be only a preview of what’s to come from Goldman and other incumbents. Around one in five financial firms surveyed by Thomson Reuters are said to consider making a move in crypto trading services in 2019 — the industry could be on the verge of a major turn toward the mainstream.
This paper aims to provide an overview of the burgeoning crypto exchange landscape from an innovation watch perspective with a focus on two specificities: the white labelling phenomenon and the growing custody issue.

There are over 500 crypto exchanges today and this abundance is made possible by the white labelling phenomena allowing for almost instant creation of an exchange. With all this proliferation, the nature of platforms continues to diversify. Non-custodial, a fundamental feature of cryptocurrency, implies a blockchain-based digital asset to be stored by its owner without the help of traditional financial intermediaries, such as banks, registered brokers / dealers or qualified custodians. But just because you can store all your coins yourself, should you?

A notable fact about crypto trading is the major role played by exchanges platforms in the ecosystem:
Basics of cryptocurrency trading and exchanges landscape

Unlike stocks but like foreign exchanges, cryptocurrencies are traded 24/7 globally on different exchanges with few barriers to entry and minimal censorship. The price is determined by a free floating market exchange rate that is established by buyers and sellers on different exchanges around the world in different currencies and trading pairs.

Investors are eager to trade in this rapidly-growing space, and a bunch of platforms with different infrastructures have emerged to meet the need for the exchange of digital currencies. Calculating the number of crypto exchanges is a not an easy task. To date, there are more than 500 cryptocurrency exchanges that support active trading and that number is growing with every passing week.

Over 2000 cryptocurrencies are in circulation, with a combined market cap of over $219 billion.

The combined 24-hour trade volume of the top 10 exchange platforms is more than $6.5 billion (almost 40% of total).

Arbitrage possibilities:

Because the same crypto tokens are traded on different exchanges meaning different price discovery markets, there is often price discrepancies across exchanges. For example, GDAX may trade LTC/USD at $300 while Bittrex trades it at $250, and therefore an arbitrage opportunity is created. In this case, a crypto trader would purchase Litecoin with USDT on Bittrex, transfer it to GDAX and then sell it for USD to earn a profit. Because cryptocurrencies can be transferred around the globe cheaply and quickly (except Bitcoin), profitable arbitrage is possible and exchange prices quickly even out.

From a technical perspective, very few exchanges offer lending, margin trading and short selling features. A large concern in the crypto market was the lack of shorting capability, leading to a one-sided long hold or sell mentality. Now that Bitcoin futures have been launched on CBOE and CME, there is an opportunity for more institutional investors to short the Bitcoin market in a regulated way, which should improve volatility and price stability over time.

- CBOE launch price (2017.12.12) = $18,550
- CBOE Price (2018.09.30) = $6,610 (-64%)
- CME launch price (2017.12.17) = $19,595
- CME Price (2018.09.30) = $6,615 (-66%)
Volume of transactions per day from different types of exchange platforms (Coinmarketcap):

<table>
<thead>
<tr>
<th>From</th>
<th>Custodial exchanges</th>
<th>To</th>
<th>Decentralised exchanges</th>
<th>To</th>
<th>Non-custodial exchanges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binance</td>
<td>BINANCE</td>
<td>ICE</td>
<td>IGOMarkets</td>
<td>Cboe</td>
<td>CME Group</td>
</tr>
<tr>
<td>OKEX</td>
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<td>Bitfinex</td>
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<tr>
<td>Kraken</td>
<td>kraken</td>
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<tr>
<td>Coinbase</td>
<td>coinbase</td>
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</tbody>
</table>

Recent market entry of traditional exchanges in ETF and futures

The new form of exchange: a mix between decentralized and non-custodial
Main features of large custodial platforms:

- Centralized exchanges that ask users to perform mandatory tasks to sign up and verify their identity
- Fees can be expensive because the platform takes a percentage of the initial investment
- High level of trust in the centralized exchange platform (holds the private keys to the tokens and the funds behind - subject to hacking)

Main features of decentralized platforms:

- Open-source, permissionless on-chain platform for trades to take place so that there is no need to trust a third party with your private keys
- Trading is completed utilizing smart contracts on the Ethereum network instead of being done on a centralized platform (not the only platform supporting decentralized exchange)

Main features of non-custodial platforms:

- No account is required to trade, so this model is perfect for individuals who simply want to trade quickly. It is also good for people who do not want to rely on an exchange or doubt to entrust an exchange with personal information. The environment offers a higher degree of anonymity and security.
- A non-custodial exchange does not hold your money as a custodial one does and the transaction is carried out instantly on your behalf. Shortly after the trade, the crypto is automatically deposited back into your possession.
THE CRYPTO EXCHANGE WHITE LABELLING TREND

As the awareness for crypto potential grows, so does the need for easy yet reliable exchange platforms.

However, companies are often faced with restrictions on building a successful platform when it comes to investing in a good technical team to develop the complex product, overlooking the growth of the platform, or allocating their money on growth often at the expense of technical quality.

It is with these issues in mind that several companies came up with a solution that grants companies a solid technical product with high speed of operation and a reliable and easy-to-use interface.

White label cryptocurrency software is usually called a license, or a ready-made platform that the supplier (company) offers. As a general rule, in such systems, the core, backend, and database are copied from one client to another.

Pros:

1. Rapid deployment. In such systems, the same core, backend and databases are used from one customer to another, which means that you do not need to build anything from scratch. You just need to deploy, install and configure it in a new environment.

2. The core works reliably. Depending on how many times the product has already been sold - each customer has already tested it, which means that you get a stable set of functions and feature.

The architecture of a Bitcoin Exchange Software

<table>
<thead>
<tr>
<th>Trade Engine</th>
<th>User Interface (UI)</th>
<th>Wallet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra features</td>
<td></td>
<td>a. Hot Wallet</td>
</tr>
<tr>
<td>Admin Panel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The average cost of the platform with a white label is $25,000 if you choose Merehead

Cons:

1. Companies rarely provide a unique design for the client. It is therefore easy to recognize such platforms. Outwardly, they are quite similar.

2. Lack of support. White label cryptocurrency platforms are offered, as a rule, by software vendors. They are not interested in support; their main task is to sell products. For them, it is inefficient to use the team’s resources to support the system and, even more so, the introduction of new functionalities in the future. It makes sense to find a reliable company.

Latest development

- A game changer in the crypto space is the new venture of ICE called Bakkt. The project is expected to launch in November 2018 and will offer a federally regulated market for Bitcoin backed by the Intercontinental Exchange’s (ICE) financial market infrastructure and technology.

- Crypto giant Binance is partnering with other exchanges to fund Terra, a new initiative to get consumers to adopt digital money by using a so-called “stable coin.” This project is taking place in Asia where the use of cryptocurrencies for e-commerce similar to WeChat is already on the go.
In this context, improved crypto custody services might therefore be the missing piece in the infrastructure of blockchain to unleash its full potential.

Recently, many actors with different backgrounds have seized the opportunity. Crypto trading companies like Coinbase recently opened their custody service taking advantage of their strong presence on the market and providing storage for many ERC20 tokens and other crypto assets.

Large U.S. banks are also considering filling the custody gap. Goldman Sachs and JP Morgan are on the verge of providing a crypto custody service via a safe depository box, which means these banks would hold the securities on behalf of the crypto funds. Similarly, running the entire securities and payments value chain for Switzerland, SIX is creating a digital ecosystem that will provide all steps of the chain in an integrated and secure model.

Alternative players are also setting up pure crypto custody service built from the ground to provide solutions for institutional investors.

### Sample of white label companies

<table>
<thead>
<tr>
<th>Company</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CRYPTO NEXT</strong></td>
<td>Crypto Next's white label digital payments platform is a software solution for digital currency exchange. Boasting all standard functionalities for cryptocurrency and fiat currency trading, as well as several unique features, the Crypto Next platform adopts a simple, intuitive user interface.</td>
</tr>
<tr>
<td><strong>SHIFT</strong></td>
<td>SHIFT provides solutions to launch FX and crypto exchanges, featuring proprietary trading technology, proven legal and compliance solutions, aggregated liquidity and 24-hour support.</td>
</tr>
<tr>
<td><strong>BLOCK EX</strong></td>
<td>The BlockEx brokerage software provides a complete package to companies willing to build a digital asset trading platform for investors. Payment rails, liquidity, three different skins, social and leverage trading and full back office.</td>
</tr>
<tr>
<td><strong>IBINEX</strong></td>
<td>Ibinex is a B2B white label crypto exchange that supports corporate branding and identity, while supporting back-end operations. Their solution includes KYC/Onboarding, Fiat to Crypto Processing, Custodianship, a fully EU regulated environment and other features.</td>
</tr>
<tr>
<td><strong>MERHEAD</strong></td>
<td>Merehead Outsourcing is a company that provides professional services to businesses through its custom software, developing high-load systems and providing robust solutions for blockchain exchanges.</td>
</tr>
</tbody>
</table>
CLOSING WORDS

The challenge that remains for all these different custodians is their ability to attract institutional investors as they have the potential for massive asset capital allocation. However, institutions are still reluctant to enter the crypto ecosystem as they require to work with trusted third parties and do not want to undertake potential legal risks. A B2B model like Silo can considerably accelerate the process as it allows banks to provide clients with the highest grade of protection and compliance for their assets.

Creating partnerships similar to what Legolas Exchange is doing with traditional brokers can solve the fiat custody issue as they give users the ability to have accounts at established fiat custodians in which they will be able to deposit fiat currency.