

HOW TO USE BLOCKCHAIN ANALYTICS TO INVESTIGATE INSOLVENCY IN CRYPTO LENDING SERVICES

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Insolvency is a proliferating issue within the cryptocurrency ecosystem, specifically in the realm of crypto lending services. Many of the largest services have recently filed for bankruptcy, with Genesis, Voyager Digital, Celsius, and BlockFi falling in spectacular and contentious fashion¹. Blockchain analytics are a critical component to analysing the flow of funds in these situations, especially for identifying the causes of insolvency and designing fair resolution.

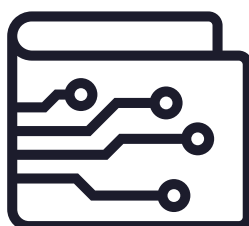


Elevated Risks in Crypto Lending

While commonly associated with decentralized finance (DeFi), crypto lending services do have centralized components as they endeavour to integrate traditional banking concepts into the blockchain environment. Like their traditional counterparts, crypto

lending services offer loans and interest to customers depositing their crypto.

However, these services and their customers are exposed to higher risk as there is no equivalent of deposit insurance. Moreover, regulatory agencies are struggling to adapt current regulations or create new ones for these crypto financial platforms that have no direct traditional banking equivalent. These elevated risks are exacerbated when fraud and other illicit activity make the insolvency resolution contentious, as we've seen in the examples mentioned.



The Illustrative Case of Celsius Network

One of the most high-profile contentious insolvency cases in the crypto world of late is that of US-based cryptocurrency lending service Celsius Network. It

first indicated pains surrounding their business model around April 2022, when matters of asset custody arose from questions posed by regulators and general volatility in the crypto market. This situation swiftly devolved over the summer of 2022, culminating in Celsius Network filing for Chapter 11 bankruptcy in July 2022. CEO Alex Mashinsky was arrested on fraud and market manipulation charges a year later in July 2023².

Celsius Network reached settlements in July 2023 to facilitate the returning of assets to customers and manoeuvre the company out of bankruptcy proceedings³. The company faces a staggering \$78.2 billion in unsecured claims. As the situation is fraught with fraud and market manipulation charges via the CEO's legal proceedings, navigating the company through this legal maelstrom will require sophisticated investigative techniques.

The crypto element may sound like an added complication in a contentious case like this, but the ability to apply blockchain analytics and investigative techniques can make identifying the ultimate destination of funds more feasible than with traditional, fiat currency-based enterprise.

1 <https://apnews.com/article/cryptocurrency-technology-financial-services-bankruptcy-bitcoin-f7d97ff9cc12afc1fd845648b5f13ea7>

2 <https://www.coindesk.com/markets/2022/07/15/the-fall-of-celsius-network-a-timeline-of-the-crypto-lenders-descent-into-insolvency/>

3 <https://cointelegraph.com/news/celsius-network-reaches-settlements-exit-bankruptcy>

When blockchain analytics are combined with traditional financial investigation expertise, companies in situations like that of Celsius Network stand a better chance of reconstructing fund flows, locating assets, and ultimately reaching resolution.



Needles in two Haystacks: The Blockchain and Unstructured Data

When effectively harnessing blockchain analysis in tandem with unstructured data, the two data sources inform each other, and quicken the process of reconstructing the flow of funds and identifying the locations of assets. Unstructured datasets (email addresses, text messages, internal communication platforms) are critical in reconstructing what happened and

how in any financial investigation. The public nature of the blockchain allows the examination of all transactions occurring in a particular case. Both sources of information can be leveraged in an investigation to accelerate the identification of needles in either haystack.

From unstructured data to the blockchain

In crypto insolvency cases, unstructured communication datasets can contain information pertaining to critical crypto transfers and transactions, like transaction hashes and addresses. These critical identifiers, especially when found in a critical conversation, can be put into blockchain analytics tools to focus investigators' efforts in tracing funds.

In the Celsius Network case, the FTC asserted that the company lacked any system to track assets and liabilities until mid-2021⁴, meaning there was a four-year accounting blind spot up to that point from the company's founding in 2017. Leveraging unstructured data to find known addresses or transactions and thereby reconstructing fund flows can fill some gaps in this four-year blind spot, identifying where assets went and what liabilities were incurred.

Additionally, this process can help resolve issues pertaining to the veracity of transactions, comparing transfers likely involving legitimate business operations with apparent anomalies, thus triaging pools of transactions and addresses potentially linked to fraudulent activity.

Reversing the process

The reverse is also true. Once a holistic and sophisticated blockchain investigation has taken place, information obtained can then be fed back into the investigative process to uncover further evidence amongst unstructured datasets. Effective use of sophisticated blockchain analytics tools can identify significant transactions on the blockchain that inform an investigator where to look amidst massive volumes of chat logs to see who knew what and when.

Blockchain analytics can unveil transaction patterns and return critical details such as timestamps of transfers. By making note of timestamps of large or patterned transfers, one then can analyse email, text, and internal communications surrounding these timestamps and potentially harvest further evidence and information on whether these transactions occurred for legitimate or illegitimate reasons.

Conclusion

So long as the popularity of DeFi platforms continues to grow faster than the regulation and safeguards around it, contentious insolvency cases in the cryptocurrency sphere likely aren't going away anytime soon. Enabling investigation teams to amplify traditional investigation techniques with the power of blockchain analytics will empower companies to better guide themselves out of tumultuous financial situations.



4 <https://www.ftc.gov/news-events/news/press-releases/2023/07/ftc-reaches-settlement-crypto-platform-celsius-network-charges-former-executives-duping-consumers>

