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WEB3 AND ADR: IS DECENTRALIZED ADR THE ANSWER TO BLOCKCHAIN DISPUTE RESOLUTION?

Avi Kafka

We live in a new digital reality. Along with new Web3 foundational technologies and uses like blockchain, DAOs, and the metaverse, new kinds of conflicts arise that courts are not properly situated to handle.[1] With these new technologies come important theoretical and practical discussions on ADR concerning blockchain and smart contracts.[2]

Considering blockchain's immutable and pseudonymous nature, ordinary courts would not be proper places for dispute resolution, nor would many who use decentralized blockchains want to use the regular court system.[3] Not knowing the other party's identity and jurisdiction makes it challenging to even initiative a claim, let alone allow for an ordinary court to provide a swift and equitable solution.[4] If the dispute arises in a decentralized setting should parties rely on traditional dispute resolution or are decentralized ADR mechanisms a better alternative?[5]

Given the vast adoption of blockchain technology, from cryptocurrencies to supply chain management,[6] numerous platforms utilizing blockchain technology offer conflict resolution

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[1] *Kleros: A Cornerstone of Mass Adoption in the Decentralized Economy?*, KLEROS (Sept. 12, 2018), https://blog.kleros.io/kleros-a-cornerstone-of-mass-adoption-in-the-decentralized-economy/ [https://perma.cc/3ZVW-K6FJ].

[2] Gary Tse and Yingyu Wang, *Blockchain dispute resolution: a better alternative for the decentralised world?*, LEXOLOGY (Apr. 3, 2019) https://www.lexology.com/library/detail.aspx?g=35161d77-32d1-41ac-9dc4-1c4fbf2d7997 [https://perma.cc/4C9X-6B7T].

[3] Alexandra Miller, *Blockchain: A New Frontier for Dispute Resolution*?, KENNEDYS (Nov. 25, 2020), https://kennedyslaw.com/thought-leadership/article/blockchain-a-new-frontier-for-dispute-resolution/ [https://perma.cc/SS8C-HDSS].

[4] Tse, *supra* note 2.

[5] *Id.*

[6] *The growing list of applications and use cases of blockchain technology in business and life*, INSIDER INTELLIGENCE (Jan. 24, 2023), https://www.insiderintelligence.com/insights/blockchain-technology-applications-use-cases/ [https://perma.cc/677G-SGRY].

services.[7] Decentralized justice platforms such as Kleros, Aragon Network, Jur.io, to name a few popular ones, offer ADR services for various technological-based disputes.[8] These platforms are a type of "digital court" enabled by blockchain technology.[9] They are designed to settle disputes by sourcing jurors under the incentive of financial rewards for rendering fair and equitable decisions,[10] which are then codified as smart contracts on a blockchain.[11] Thus, trying to resolve inconsistencies in smart contracts, which reduce transaction costs, creates reliability and predictability, and facilitates growth of decentralized blockchains.[12]

Generally, in decentralized ADR settings dealing with smart contracts, when the mechanism of choice is invoked, the funds in the smart contract are frozen pending the resolution.[13] After the funds are frozen, individuals will be randomly selected to vote on whether a task has been completed following the specifications of the agreement between the parties from the smart contract, without knowing who the others are or how each other will vote.[14] After the dispute is resolved, the "jurors" who voted will be awarded based on how they voted and whether their vote was in line with the majority or not.[15] Many services utilize a game-theory model like this to sustain a dependable ADR service.[16]

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[7] Michael Buchwald, Comment, *Smart Contract Dispute Resolution: The Inescapable Flaws of Blockchain-Based Disputes*, 168 U. PA. L. REV. 1369.

[8] Miller, *supra* note 3.

[9] Yann Aouidef et al., *Decentralized Justice: A Comparative Analysis of Blockchain Online Dispute Resolution Projects*, FRONTIERS (Mar. 16, 2021), https://www.frontiersin.org/articles/10.3389/fbloc.2021.564551/full [https://perma.cc/9CHL-XKQB].

[10] *Id.*

[11] *Id.*

[12] *Id.*

[13] Tse, *supra* note 2.

[14] Fredrico Ast, *Eyal Winter: On Game Theory, Decentralized Justice and Kleros*, KLEROS (Jan. 21, 2019), https://blog.kleros.io/eyal-winter-on-decentralized-justice/ [https://perma.cc/X9H2-SZMG].

[15] *Id.*

[16] *Id.*

However, there are numerous fundamental defects with the process.[17] Decentralized, pseudonymous on-chain apps are inferior to off-chain counterparts due to their inability to compel discovery, screen for distorted jury incentives, and "limits to dispute complexity".[18] Thus, decentralized ADR may not yet be ready to handle smart contract disputes.

Although blockchain advancements bring new kinds of conflicts that may not be appropriate to be solved in the decentralized setting, these technological advancements may be able to improve traditional dispute resolution mechanisms through innovative means.[19] Blockchain-enabled technologies can be used to create a more efficient, accessible, and equitable resolution network for ADR applications.[20] These networks can improve current ADR proceedings by providing digital spaces for mediation, providing cheap and interchangeable means of smart contracts with plain language, and can be used in international arbitration cases.[21]

In the end, crypto degens[22] must look for alternative solutions to erroneous smart contracts and fraudulent human conduct on the blockchain. Although Decentralized ADR may not be the perfect answer to blockchain dispute resolution, the advancements blockchain technologies bring may be used to advance the centralized setting of dispute resolution,[23] and at least offer some people an option to solve their decentralized disputes.

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[17] Buchwald, *supra* note 7.

[18] *Id.*

[19] Miller, *supra* note 3.

[20] Marike R. P. Paulsson, *The Blockchain ADR: Bringing International Arbitration to the New Age*, KLUWER ARB. BLOG (Oct. 9, 2018), http://arbitrationblog.kluwerarbitration.com/2018/10/09/blockchain-adr-bringing-international-arbitration-new-age/ [https://perma.cc/YH2H-VX3B].

[21] *Id.*; Buchwald, *supra* note 7.

[22] *Crypto Comics — What is a Degen?*, MEDIUM (Mar. 10, 2022), (explaining that degen is short for degenerate and crypto degen is a term to refer to someone who truly believes in crypto projects), https://medium.com/coinmonks/crypto-comics-what-is-degen-ddc4407774ea [https://perma.cc/5MZF-UT4X].

[23] Paulson, *supra* note 20.