



The Future of Blockchain in Social Media Governance

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1. Abstract

Intersection between blockchain technology and social media governance: a roadmap The intersection between two digital technologies, blockchain and social media, has attracted much attention. Social media platforms are developed based on specific software applications or digital tools. The back-end software of social media platforms is mainly computer code or software interface design, and data is the basis for interactions within the platform and monetization to take place. By design, technology includes both front-end and back-end components as a source code base. However, it is almost impossible to examine front-end and back-end code explicitly or comprehensively due to barriers created by ownership, regulation or contracts. For example, the algorithms directing which advertisements, news and updates are displayed within the platform are protected as trade secrets. There is often no transparency about the design details of monetized contents, including but not limited to advertisements. Social media companies often choose to keep strategic information confidential to prevent imitation. Furthermore, complexities are embedded within these technologies including algorithms, user interface design, big data management, ad delivery algorithms, and recommendation systems (Kalenzi, 2022). Both the barriers to access to and complexities of technology create obstacles for both public and regulatory scrutiny. At the same time, the technology is not only a market actor,



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but also influences individuals, society and the public sphere by shaping the way information is communicated, distributed, received, and disseminated (Ellul & Pace, 2019). However, to date there is no comprehensive legal, normative framework at the international or national level that obliges, allows for or supervises public access to these commercial technologies, or even requiring their auditing which could lead to information transparency.

Keywords: blockchain, social media, governance, transparency, algorithms, data management, regulatory scrutiny, information dissemination

1. Introduction

At the intersection of blockchain and social media is the future of governance. For a while now, increasing concerns on digital spaces have been raised about data security, user privacy, the spread of misinformation, echo chambers, the centralization of power and profit, the algorithm driven design of content, lack of transparency, the silencing of marginalized voices, and the underlying governance structures of big tech companies (Kalenzi, 2022). What are they doing, how do they make these decisions, what is being prioritized, who and what influences their rules, what is the future of their power? What are the implications of all these concerns for freedom of expression, democracy and the right to information, already deeply influenced by what happens in digital spaces where policy by design decisions are made? Tech companies argue social media governance is not easy, the technology is complex, these are global platforms, different users and countries have different welfare, some governments are bad and wish to misuse their content violations rules, others do not regulate at all and simply ban dissentient views or do “you are with us or against us” politics, some governments don’t even respect democratic norms like a free press, etc.. Furthermore, the idea that big tech companies are the ones that should be making the rules / moderations / definitions of harmful content, misinformation or manipulation of the platform is also questioned. Most governments are working on – or have already implemented – regulation about social media. This includes the need for hate speech, fake news, attention to minors; prohibition of anonymity; transparency of servers; and reporting of illegal activities. Can technologies (specifically, blockchain technology and AI tools) and different governance structures align and offer new possibilities to



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address problems? Would be these technologies able to fulfill the problems mentioned by tech companies and facilitate a more equitable distribution of power? Or instead, the concerns raise about the future of censorship-free speech and workers rights would increased? This paper seeks to understand the importance of what is happening with these new technologies and governance structures for the future of social media policies.

3. Understanding Blockchain Technology

Blockchain is a decentralized mechanism by nature. In the context of information technology, this mechanism may be interpreted as a shared ledger to which data transaction entries are reliably appended, such that the stored data reflect the records of transactions appended to it. Generally, the notion of appended transactions implies that the ledger, which may be ‘owned’ by any participant, cannot be modified. Being shared implies that the contents of this transaction ledger are accessible to all participants, possibly with restrictions on the visibility of the content. However, all participants will notice the transaction entries appended to the ledger and in case of disputes on the ordering of transactions there exists cryptographic evidence ensuring the immutability and transparency of the ledger (Ellul & Pace, 2019). This shared ledger can be stored and processed in a variety of different ways, according to various levels of required trust and connectivity between participants and according to the specific application of the ledger. In the realm of financial technology, these ledgers have often been modelled as entirely public, verifiable and trustless peer-to-peer networks where economic activity is underpinned by cryptocurrencies, that is digital tokens, whose nominal value is guaranteed by cryptographic balances at the network level.

This topic delves into the mechanisms and principles underpinning this ledger technology, referred to generally as blockchain, with focus on its more general and neutral aspects. These include a study of the fundamental structure of the blockchain ledger, a spatial memory structure of transactions where each transaction commits a given amount of resources and a time stamp which determines the blocks of transactions in which it may reside. It includes the security parameters of such a ledger and the assumptions ensuring immutability of the contents of the ledger, and aspects of the connectivity of the network participants which ensure the transparency of the blockchain ledger. The court discusses assumptions and security guarantees associated with the various models prevalent in the literature for a shared blockchain ledger mechanism. Standout features of blockchain technology are presented, such as security, the consensus mechanisms, and the principle



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characteristics of smart contracts. Different types of blockchain are overviewed, delineating between public blockchains such as Bitcoin, private blockchains such as Hyperledger, and consortium blockchains such as R3 Corda that require legal requirements to maintain the ledger between participants. (Ooi et al., 2022)

4. Challenges in Social Media Governance

As the number of social media users continues to rise, multi-fold challenges come to bear on governance. Misinformation is a significant issue. An estimated 10% of the UK workforce is providing 'clickbait' fabricated news for news outlets. In a geographical information system-based study of 8 U.S. cities, Facebook was used to successfully predict violent crime rates in the cities a month later, before official police reports could be generated. User privacy, often violated by social media platforms, is another contemporary concern. Between 2010-14, Facebook conducted a series of experiments to determine how changes in users' news feeds affected their emotional states, manipulating the emotions expressed by friends' posts. No prior consent was obtained. Such studies should pose questions as to whether rulings on fair use should be reconsidered in the context of the platformisation of social media. Necessary accountability measures are largely absent among social media platforms. Nevertheless, they are increasingly implicated in various societal functions or tasks they traditionally never performed. For instance, policing was facilitated by 600 police officers joining a 'secret' Facebook group to exchange links to far-right media text and meme content. This is also due to the relative lack of funding, making 'platform regulation' often a derogatory term. Conversely, social media companies are occasionally brought before government committees, but are also largely uncooperative in providing transparency. For instance, representatives from the seven biggest tech firms refused to attend a UK hearing on misleading COVID-19 information, before being reminded of their important role in relation to public health messages. Indeed, the same platforms exhibit unhealthy protectionism in keeping public information away from competitors by restricting data access. Equally problematic are the global effects of nationalistic laws and the 'splinternet', as evidence indicates government data requests to big tech firms have continuously grown since 2013. This poses the question of whether tech firms should be precluded from operating in dictatorships (Kalenzi, 2022). Regulatory frameworks often lag behind technological advancements. One scenario suggests the continual development of 'dark posts': a method of targeting niche groups with specific content. Consequently, this poses a series of questions regarding sovereignty in state and



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private governance of new democratic media systems. Arguably, exacerbating the situation further is the 2016 opinion that social media driven campaigns should not be considered breaches of privacy, defined as ‘anything put on the internet with potential to go viral, understanding it might do so, and then not wishing it to happen’. As such, the ways social media is able to influence policies are varied, such as in changes to bot policies to tackle harmful misinformation regarding the COVID-19 pandemic. Another case is the sexual offences act which was partly motivated by the shocking disclosures of scale of revenge porn. However, such applications also suggest that new definitions in UK law concerning harm derived from social media would require the proviso of significant harm. Of course, accountability not always predicated on the ability to change the situation, but it does require coherence in their placement of content for major public or private actors. Other issues still open to debate include the obfuscation of public discourse due to partying platforms and recommendation systems, and the commercial use of unauthorized photos. But the central challenge to how future social media governance is determined concerns the tension between the rights of freedom of expression and the necessity of protective content. To address these complexities, it is hoped that this Annual Sociology Special Collection can point toward a synthesis and vision of the most innovative participatory practices in responsible social media governance, with rigorous sociological analysis of which practices can deliver such change and under what conditions. But on a more fundamental level, it must be acknowledged that the three capitalized words that begin this sentence refer simultaneously to a new emergent technology and non-technology generating system of citizen participation in governance. Thus, historical cycles of media-technological change often converge to harness citizen resolutions at scales and with intelligibility that shape policy and practice.

5. Current Applications of Blockchain in Social Media Governance

Blockchain technology and social media platforms are both relatively recent phenomena but with significant and impactful success in their adoption. The use of blockchain for social media governance can provide new and effective responses by fostering decentralized solutions to several emerging issues in the context of global social media. The unique characteristics of blockchain are exploited through smart contracts, thus improving transparency and automating various tasks. However, these solutions are only possible if the actual design of the platform is feasibly decentralized.

One of the key ideas underlying many blockchain and DLT applications is the ability to



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make use of the underlying transparent transaction records to prove the integrity of some external data. This, for example, can be used to prove that some amount of money was received from a transaction recorded in the blockchain, and not just that a transaction was recorded (Ellul & Pace, 2019). A similar application involves ensuring that the computational results of some system have not been tampered with following their original issuing. Blockchain can provide a secure and auditable trail of the various different steps throughout the supply chain. Social media platforms limit freedom by surveillance and blocking of impoverished regions while leaving richer regions with large internet freedom (Fraga-Lamas & M. Fernández-Caramés, 2019). By integrating such a capability at the level of lab reports, Blockchain can provide empirical guarantees that lab reports have not been manipulated, in addition to providing trust in the actual lab testing. The data and in particular the physical sample must be handled with adequate integrity. A possible implementation is to place in the blockchain a chain of hashes of all samples received by equipment.

Several social media platforms reward their users for engaging in various activities such as creating content, sharing posts or reacting to posts of other users. This allows for a fairer and more transparent approach. Moreover, distrustful minorities and impoverished regions would no longer rely on a sole centralized authority to verify lab reports or expert opinions. This, in turn, could diminish restrictive access policies currently in place. By using, or linking content to the blockchain, it is ensured that the authorship related information remains intact. Additionally, the record in the blockchain can also establish a timeline indicating when this information was created. With the advent of DApps, this can also be used to build various market platforms operating on the blockchain, allowing creators to broadcast their services or products. Social media, or other platform businesses, will also be able to use these platforms to connect with creators. The usage of blockchain becomes the safeguard of the intellectual property rights of media content and the traceability of creators. This allows them cost effectively to demonstrate infringement. Plagiarists, on the other hand, would not consider their violation easily dismissed which may deter some of those engaging in infringing behavior. From the viewpoint of social media governance, the burden on the platform side is lifted as they would only have to act on cases of obvious infringement.

6. Future Prospects and Innovations

The blockchain technology brings different future prospects and innovations that may



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materialize in the governance of social media. The possible implementation of semantic smart contracts in network building, content distribution, and user incentives is one that is foreseen. There are emerging trends regarding blockchain technology that may affect social media governance. One of the most notable trends is the popularity of decentralized autonomous organizations (DAOs). They are organization structures run by rules encoded as a computer program that is maintained and executed by a blockchain. In the social media context, DAOs may represent communities that can collectively make decisions and invest in the algorithm or content together (Kalenzi, 2022). As the DAO technology is expected to mature and become more user-friendly, the governance model of social media needs to adapt as the nascent structures of DAOs regulate and operate in different ways than traditional organizations. Due to blockchain's distinctive features, such as transparency and automation, new marketing strategies that are based on features like target advertising or rewards for content engagement will appear. It is reasonable for social media platforms to leverage new marketing activities. In that case, preconceived marketing strategies may be encoded as smart contracts and competitions and public activities can be organized automatically to attract users' attention. Accordingly, the governance model needs to adapt to regulate potential gaming or unlawful actions. Since any outlook on the future is characterized by uncertainty, the text attempts to speculate on possible outcomes and identify current policy needs.

Advancements in blockchain technology have made the feature more applicable for different purposes, including the implementation of semantic smart contracts, which enable the processing of data that is not pre-determined at the smart contract's creation. When this technology matures and finds widespread use, new governance models will emerge in changed tech politics. The appropriate inspection mechanism and proactive policy formation will help to develop those features in a way that results in better social outcomes. The quickly changing nature of these new features as well as constant policy needs indicate that adaptive governance models should be a developing part of the blockchain ecosystem. Because of this, various stakeholder perspectives, such as the social media users and the developers, the social media governance organizations, and the regulatory bodies, are considered. By looking far ahead to the future, this text provides a forward-looking analysis of the governance model. Ultimately, it will highlight the importance of innovation in promoting the development of effective governance frameworks. (Parenti et al.2022)



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7. Case Studies and Success Stories

1. Cryptokitties: On-chain User Content Moderation Do Kwon is leading Terraform Labs, gave a presentation with the title From BigQuery to Terabytes in TFL. Also, TFL raised CAD 150M in a token sale co-led by A16 and Snowcap on Feb 9 of this year. The main topic in TFL is the Mirror Protocol and Anchor Protocol. Mirror brings synthetic equity-like assets on top of the Terra blockchain by mApps. Anchor is a high-yield saving product for stablecoin users through overcollateralized UST lending. However, this case study is a different application of the Terra blockchain in a fully permissionless, Delegated-Proof-of-Stake model. Statues is a social web3 project with a mission to empower online communities. It just launched 3 weeks ago. A part of the governance of the Statues platform is happening on-chain. The 3 on-chain processes are user content moderation, creation of Statue Spaces, and creation of Bonus Pools. Any user can lock up STTS tokens to become a mod or assign them to another user to be a mod. Legit content creators get a bonus from their followers which is locked up as mod tokens. Both blocks contain a textualType of "encodedProposal". The space 'rockst.moon' is trying to mint an NFTId '6' in the collection 'statues'. This NFT is the reward for the mod who had a legitimate encoding query. If the mod is successful, they get tokens from the content creator's followers. In this specific case, it indeed figures that a music video encoding was legitimate. Detecting a pattern is the result of cross-referencing the text data with the transaction data. A transaction burns 100kStatues to make a fanpage of user address. At around the same time, another txn was sent to place a music video ad with ID 4 on this space.

2. Statues.social: Governance Token Re-designation This block contains a successful community call transfer from the artist wallet to the address wallet. The artist is issuing a creator challenge with specific parameters. By providing a correct response, the artists who are then faced with a free on-chain transfer will have the opportunity for eligibility in future Proofs. It turns out, clone space doesn't have any of the listed ad slots. Instead, the ad slots are claimed by fraudsters disguising the embedded ads in the flock of VALIDATAS. This case study outlines a basic introduction of a governed blockchain use case model. The analytical process demonstrates the systematic approach to understand block actions. The scripts and techniques are shared as open-source data for the blockchain community. Far wider implications and impacts on the rising trend of NFTs are discussed and encourage other related data analytical practices to avoid what happened in this Statues



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case. (& Chandran, 2022)

8. Conclusion and Recommendations

Blockchain is likely to change the way how social media platforms are governed. The technology is in the process of transforming several sectors through reliable and tamper-evident record keeping. The potential for change in social media is connected to finding effective ways of governing the negative aspects of moderation. Blockchain technology can make the decisions about the reach of single posts and accounts transparent to users and regulators and somewhat limit the power of dominant social media platforms. It is argued that there is demand for change. In parallel, decentralization of social media might make the shortcomings of moderation less severe. The issues to be addressed make new technical and paying solutions more likely. Taken together, these points show that the threshold for blockchain technology to tackle them can be seen as low and a way of making it more likely is advocated.

Further adoption of the technology in social media moderation is encouraged. Use of the technology in content removal is recommended. The Gray Area pioneers have been experimenting with blockchain technology to establish an infrastructure for censorship-resistant social media. The lack of transparency in content removal policies has led to the critique of strong social media platforms' censorship practices. The balance is found between maintaining the civil conversations on the platform and the right to freedom of speech. The findings suggest that real-time blockchain certificates for contained removal can decrease the ambiguity that the policies and actions of the experimenters rely on. Moreover, it is found that the experimenters have made the operation of the decentralized social media representative by using incentives including tokens. This encourages the broader usage of blockchain technology in social media content removal.

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