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Blockchain for good, a prospect in action. How technological fields emerge through affordance-driven institutional work☆

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ABSTRACT

Emerging technologies are often celebrated for their transformative potential long before they are put to the tests of usage and adoption. Promises to radically disrupt existing institutional arrangements in pursuit of a better world play an important role in this process, but how such promises emerge and shape new technological fields, is underexplored. This study examines the relationship between technological affordances and institutional work in the emergence of new technological fields, drawing on data from 371 ventures promising blockchain solutions to tackle grand societal challenges. Findings reveal the emergence of the "blockchain for good" field around a utopian vision of a fair, responsible, efficient, and platformed world governed by blockchain. Such vision is constructed in the transient space between present and future, through affordance-driven institutional work. Three institutional work practices -problematization, prospection, and reification- construct the field in the transient space between future promises and their actualization. Through these practices, ventures mobilize blockchain's prospective affordances to span boundaries across market, state, and community logics, showcasing future visions as present realities. By theorizing prospective technological affordances and their conditions of enactability, the study highlights how prospective affordances drive institutional work, shaping the early emergence of new technological fields even before a technology is market-ready or widely adopted.

1. Introduction

Humans have a longstanding fascination with emerging technologies, most of which relies on expectations of social disruption and change. In their early days, the steam engine, the railroad and the telegraph were all celebrated as awe-inspiring means of conquering time and space, overcoming poverty and reaching greater wellbeing. The commoditization of personal computers in the mid-1980s, the introduction of Internet and the rise of the knowledge economy a decennium later, released new waves of such expectations (Pärna, 2010; Standage, 2005). In continuation of this trend, emerging digital technologies related to artificial intelligence, blockchain, and virtual reality are triggering fascination about their quasi-magical power to change our world (Bailey et al., 2022; Jacobetty & Orton-Johnson, 2022; Liu, 2021). A spark for these trends is the very process of technology emergence which fosters imaginative visions of disruptive change. Artificial intelligence prospects a world where machines interpret and classify information as humans do, while

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blockchain promises decentralized infrastructures through which any form of data can be shared, verified, and exchanged across borders. These visions circulate long before technologies reach maturity and function as powerful catalysts for imagining alternative institutional arrangements.

As expectations of social disruption accumulate, new technologies frequently become focal points around which temporary coalitions of actors organize, debate, and imagine alternative futures. Such coalitions often take shape in what scholars call *issue fields*: fluid, provisional arenas where heterogeneous actors coalesce around shared concerns without yet sharing stable practices or identities (Hoffman, 1999; O'Sullivan & O'Dwyer, 2015; Zietsma et al., 2017). These early fields are typically marked by institutional pluralism, as the actors involved draw on different belief systems and normative expectations, such as market logics of efficiency and competition, state logics of regulation and accountability, community logics of participation and mutual aid, to frame both the problems they see and the solutions they propose (Fuenfschilling & Truffer, 2014; Garud et al., 2019; Hoffman, 1999; Powell & Sandholtz, 2012). In such contexts, technologies begin to acquire layered institutional meanings as actors mobilize different logics to define what a technology is, what it should become, and what problems it might solve (Hinings et al., 2017).

Crucially, many of these institutional dynamics unfold long before technologies are widely used. Our lives are already permeated with societal discourses about how AI and blockchain will disrupt our existence, even though most people have never experienced self-driving cars, bought or sold Bitcoins, or deployed non-fungible tokens (NFTs) on a blockchain platform. Since we live in a world of future technologies (Jacobetty & Orton-Johnson, 2022), we also need to better understand the institutional consequences of their prospective affordances -i.e., the imagined possibilities for action that actors attach to emerging technologies prior to their operational readiness. Prospective affordances such as decentralization, disintermediation and trustlessness, for blockchain, or hyper-personalization and cognitive extension, for AI, matter because they allow actors to problematize existing institutional arrangements and to envision alternatives futures long before technological infrastructures materialize and are widely adopted (Berente & Seidel, 2022; Oborn et al., 2021; Young et al., 2019).

The earliest stages of technological field formation are often driven not by what technologies do, but by what they are imagined to make possible (Augustine et al., 2019; Garud et al., 2019; Grodal & Granqvist, 2014). In these moments, technologies become catalysts for institutional work: the purposive efforts through which actors create, reshape, or reinterpret institutional arrangements (Lawrence et al., 2009). Prior research shows that such work is central to the emergence of new fields, as actors draw on institutional logics to critique established orders and propose new ones (Garud et al., 2022; Gawer & Phillips, 2013; Smets et al., 2012; Zietsma & Lawrence, 2010). Yet institutional scholarship has focused predominantly on technologies in use, offering limited insight into how actors mobilize institutional logics and prospective affordances during the formative, pre-adoption stages of field emergence (Berente & Seidel, 2022; Hinings et al., 2017). Affordance research similarly has paid limited attention to affordances that are prospective or ideological rather than grounded in direct engagement (Faraj & Azad, 2012; Leonardi, 2013; Majchrzak & Markus, 2012). Thus, early moments of technological field creation where meanings are fluid, affordances are speculative, and logics collide remain undertheorized both in studies of technology and of institutional change (Berente & Seidel, 2022; Faik et al., 2020; Gawer & Phillips, 2013; Hinings et al., 2018). Yet these moments are precisely where actors begin to reconfigure institutional boundaries and articulate the futures that technologies might enact. Without theorizing this stage, accounts of digitalization risk overlooking how institutional change is initiated.

Therefore, this study asks: *How do actors leverage the prospective affordances of an emerging technology to perform institutional work and shape the early emergence of a new technological field?*

To this aim, the present work studies the emergence of the field 'blockchain for good'(B4G) -the wide range of applications of blockchain technology to address social, environmental, and humanitarian challenges and create positive impact across domains of human activity. Among recent technologies, blockchain is recognized as one of the most disruptive innovations in information technology since the Internet (Catalini & Gans, 2020; Felin & Lakhani, 2018). Blockchain is especially suitable for studying early-stage institutional work because its technical features such as decentralization, immutability, and transparency are objects of broad, future-oriented institutional claims about disintermediation, alternative governance, and trust reconfiguration at the societal level (Davidson et al., 2018; Tandon et al., 2021). This makes blockchain an exemplary case for examining how imagined technological futures shape institutional logics and contribute to field-level emergence.

In this study, we examine early field formation through a dataset of 371 ventures developing blockchain-based solutions to social, environmental, and humanitarian challenges across multiple domains. The B4G space exemplifies an emerging technological field, as diverse actors converge around societal challenges and mobilize blockchain's affordances to propose institutional alternatives at the crossroads of market and community logics (Zietsma et al., 2017).

Findings show that ventures addressing societal challenges through blockchain are not only reshaping expectations about the technology's future but also performing the institutional work that underpins the emergence of the B4G field. By leveraging blockchain's prospective affordances of decentralization, immutability, and transparency these ventures reimagine how market, state, and social-impact logics might intersect in the future world of blockchain mass adoption. Three practices enable this affordance-driven institutional work: problematization, which articulates shortcomings in existing institutional arrangements; prospection, which constructs future-oriented scenarios that entangle institutional logics with prospective affordances; and reification, which uses performative artifacts such as mock-ups or simulations to make these scenarios appear actionable. Together, these practices generate 'as-if realities' that give form to imagined institutional futures despite technological immaturity. In contributing to scholarship on digital affordances, institutional work, and technology-driven field emergence, the study shows how prospective affordances generate temporal and performative forms of institutional work that shape field emergence even before technologies mature.

2. Emerging technological fields: technology, institutional work and promises of societal change

2.1. Emerging digital technologies: institutional work and new field emergence

Emerging digital technologies leverage interconnected computing power to address both new and longstanding challenges through a combination of physical artifacts, algorithms, and social processes (Bailey et al., 2022; Faraj et al., 2018). Often, these technologies give rise to new technological fields which govern their production, distribution, and integration into society (Furnari, 2014). While "fields only exist to the extent that they are institutionally defined" (DiMaggio & Powell, 1983), explanations of how new fields become institutionalized vary. Some scholars emphasize stable, shared meaning systems among interdependent organizations (Scott, 2013), while others frame fields as arenas of conflict where actors vie over resources, meanings, and boundaries (Purdy & Gray, 2009). Reconciling these views, research shows that fields vary in their reliance on shared meanings. Many nascent fields, and others throughout their lifecycle, emerge as 'issue fields' -i.e., dynamic arenas populated by diverse actors with different institutional backgrounds addressing cross-cutting issues without yet sharing stable practices or identities (Hoffman, 1999; O'Sullivan & O'Dwyer, 2015). These issues may arise from external shocks (e.g., pandemics), the gradual recognition of collective problems (e.g., poverty or environmental degradation), or technological opportunities (e.g., biotechnology or home computing) (Furnari, 2014; Hoffman, 1999; Powell & Sandholtz, 2012; Zietsma et al., 2017). Since these central issues often carry different meanings for actors, nascent issue fields are often dynamic and provisional, have permeable boundaries and are populated by organizations subject to multiple contrasting pressures and influences (Garud et al., 2002; Hoffman, 1999; Zietsma et al., 2017). Consequently, in such settings multiple and conflicting logics are often the norm rather than the exception (O'Sullivan & O'Dwyer, 2015).

These insights are especially relevant for new fields occasioned by emerging technologies. Whereas established technologies align with existing structures to form stable 'configurations that work' (Rip & Kemp, 1998), emerging digital technologies are often incongruous or provocative with respect to these structures. They promise to tackle grand societal challenges in novel ways and foster individuals' transition to better end states by moving across established institutional logics such as market, community, state and professions (Bailey et al., 2022). Institutional logics refer to socially constructed historical patterns of cultural elements (values, beliefs, and normative expectations) and material practices by which people, groups, and organizations make sense of and evaluate their everyday activities, and organize those activities in time and space (Lounsbury & Boxenbaum, 2013; Thornton et al., 2012; Thornton & Ocasio, 2008). Currently, the literature illustrates seven widely acknowledged logics, i.e., the market, corporate, profession, state, community, family and religion, despite common agreement that these ideal types can manifest under a variety of forms at one or more levels of analysis, or even constitute hybrids (Thornton et al., 2012). Examples of the deployment of multiple institutional logics can be found in platforms like Airbnb and Uber which merge community logics (peer-to-peer sharing, lending, gifting) with market logics (renting, selling) to disrupt traditional exchange systems (Laurell & Sandström, 2017; Mair & Reischauer, 2017). Similarly, blockchain's smart contracts blur boundaries between financial markets, the sharing economy, and state and community logics in order to address issues like financial inclusion and environmental accountability (Davidson et al., 2018; Vergne & Swain, 2017), while AI ventures reshape market models and professional roles in the attempt to increase organizational performance (Bailey et al., 2022; Faraj et al., 2018). These examples underscore the need to explore the evolving relationship between technologies and institutional logics in the emergence of new fields.

Institutional work -i.e., the purposeful action to create, maintain, or transform institutions- offers a lens to explore how actors navigate these pluralistic fields (Lawrence et al., 2009). It points away from the preponderant study of institutions as given and shifts attention to the role of human action in the creation, maintenance and transformation of institutions (Gawer & Phillips, 2013; Hwang & Colyvas, 2011; Lawrence et al., 2009). Gawer and Phillips (2013) suggest that institutional work can be an important source of pressure for logic change and underscore the centrality of purposeful action undertaken by actors who deal with multiple logics within new provisional systems of meaning. For instance, actors often borrow or adapt existing logics to legitimize new institutional arrangements while grappling with conflicting pressures and expectations (Greenwood et al., 2002; Hoffman, 1999; Lawrence et al., 2009).

In emerging technological fields, institutional work often centers on the cultural meanings, practices, and artifacts of the new technologies (Essén & Värlander, 2019; Faik et al., 2020; Hultin & Mähring, 2014). However, much of the literature has overlooked the direct role of technology in institutional work (Dahabiyeh & Constantinides, 2022; Gawer & Phillips, 2013; Hinings et al., 2018; Thornton et al., 2012). To incorporate technology into institutional theory, it is important to study technologies as hybrid orchestrations of physical artifacts, algorithms, and social promises that contribute to institutional work and the formation of new technological fields (Essén & Värlander, 2019; Hultin & Mähring, 2014; Oborn et al., 2021). This involves understanding how actors engage with and draw on various pre-existing logics to realize the promises of emerging technologies (Dahabiyeh & Constantinides, 2022; Faik et al., 2020; Garud et al., 2002; Oborn et al., 2021). To this purpose, I now turn to the literature on technology affordances, and argue for the need to theorize the distinction between institutional work based on actual and prospective affordances.

2.2. Exploring the technology-institutions nexus: the role of prospective affordances

Despite some recent progress in establishing the relation between technological affordances and institutional logics (Berente & Seidel, 2022; Essén & Värlander, 2019; Faik et al., 2020; Hultin & Mähring, 2014), important early-stage dynamics remain insufficiently understood. Technology affordances are generally defined as possibilities for goal-oriented action that actors perceive in a technology as they engage with the materiality of its artifacts (Leonardi, 2013; Majchrzak & Markus, 2012). An institutionally-embedded view of affordances implies that affordances can be seen as bridging practices between the materiality of digital technologies and the goals, assumptions, and the scripts for practice that social actors inscribe into a technology's materiality according to the broader institutional context in which they operate (Berente & Seidel, 2022; Dahabiyeh & Constantinides, 2022; Hultin & Mähring, 2014; Jarvis et al., 2022). From this perspective, technological artifacts not only carry social affordances but also enact and materialize institutional logics (Faik et al., 2020). Since affordances represent possibilities for action rather than action itself, different actors mobilize affordances in distinct ways depending on their goals and how they interact with the technology's features (Kallinikos et al., 2013; Leonardi, 2013).

Although most scholars assume, in theory, that institutional structures and local technology enactments mutually shape each other, conceptualizations of the mechanisms underlying this mutual constitution are lacking, especially at the collective level of analysis (Barrett et al., 2013; Essén & Värlander, 2019; Faik et al., 2020; Young et al., 2019).

As an exception, a small set of studies focus on the relationship between technology affordances and the coexistence of multiple institutional logics in fields of technological adoption. In the case of healthcare technology adoption, Hultin and Mähring (2014) revealed how visualization artifacts related to new technologies aid the integration of new institutional logics into operational practice. In a longitudinal case study of the implementation of an e-health service, Essén and Värlander (2019) illustrated the mutually constitutive relationship among the material structure of technology, human action, and social structure over time, demonstrating how technology in use can generate institutional change at the field level by bringing together pre-existing logics and working towards their compatibility. Faik et al. (2020) further theorized two key forms of institutional work through which digital technology affordances shape logic multiplicity: shifting centrality and enhancing compatibility. Accordingly, affordances can either intensify tensions among competing logics or promote complementarity, creating hybrid arrangements.

Despite these important advancements, so far attention has been devoted to technology implementation and use, in line with the centrality of practice in the affordance theory (Leonardi, 2013; Orlikowski & Scott, 2008). When a form of technology becomes prevalent in a given context, its affordances can become institutionalized: Shaped by habitual use and shared understandings, they are accessed instinctively, without users' conscious deliberation (Faik et al., 2024). Over time, the internet has become institutionalized as a primary tool for accessing information, and Google Search, in particular, has normalized certain affordances such as searching for answers or finding directions. This traditional conceptualization of the relation between affordances and institutionalization offers limited insight into emerging technological fields such as AI, blockchain, quantum computing or the metaverse where users often lack direct experience or established practices. In such cases, affordances often take on a prospective dimension, shaping imagined futures that actors treat as achievable or in progress, even when the technology is nascent or untested. For instance, blockchain ventures operate as if a decentralized future is inevitable, using this vision to gain support from investors, regulators, and users. Similarly, AI is often framed as a transformative tool capable of addressing global challenges like climate change and healthcare inequality, despite the technology's current limitations. These as-if realities help push forward pilot projects, investments, and policy discussions based on envisioned possibilities rather than actual practices, and thereby play an important role in institutional work for field emergence. Studies of emerging fields reveal how imagined futures can foster legitimacy even in the absence of tangible outcomes. Augustine et al. (2019) described how geoengineering evolved into a "concrete utopia," where envisioned solutions to climate change garnered attention despite limited implementation. Similarly, Grodal and Granqvist (2014) showed how nanotechnology gained legitimacy through narratives emphasizing its potential even as the technology remained immature and adoption lagged. These cases highlight the need to study how the boundaries of new technological fields are shaped by affordances that connect the present with desired futures.

3. Methods

3.1. Context description and background on blockchain technology

Blockchain technology emerged in 2008 with the release of the Bitcoin white paper by the pseudonymous Satoshi Nakamoto, introduced during a period of declining trust in centralized financial institutions. Designed as a peer-to-peer alternative to bank-mediated transactions, blockchain proposed an institutional shift in how coordination and verification could occur: rather than relying on centralized authorities, trust would be redistributed to a decentralized, consensus-driven technical infrastructure (Catalini & Gans, 2020; Davidson et al., 2018; De Filippi & Wright, 2018; Ungureanu, 2025a).

Technically, a blockchain is a distributed ledger often compared to a growing chain of blocks, where transactions are bundled, validated, and cryptographically linked so that every block traces back to the genesis block (Notheisen et al., 2017; Pilkington, 2016). The ledger is maintained by a network of nodes that verify transactions through various consensus mechanisms (e.g., proof of work, proof of stake), depending on the blockchain's governance design. Smart contracts -i.e., self-executing programs that automate agreements- have expanded blockchain's applications beyond cryptocurrency since 2016, enabling new forms of automation and interorganizational coordination across sectors such as supply chains, energy, healthcare, public administration, and humanitarian aid (Catalini & Gans, 2020; Davidson et al., 2018; Felin & Lakhani, 2018).

A distinctive aspect of blockchain systems central to their institutional relevance is their decentralized operational structure. Unlike traditional information systems governed by a central authority, blockchains rely on consensus mechanisms that allow a distributed network of participants to agree on the validity of transactions (Davidson et al., 2018). In proof-of-work systems, such as Bitcoin, nodes compete to solve cryptographic puzzles, ensuring that no single entity controls verification. In proof-of-stake systems, validation power is allocated to nodes that commit economic resources, reducing energy consumption while preserving distributed governance (Pilkington, 2016). Although these mechanisms differ technically, they share a core institutional principle: coordination without centralized authority. In doing so, they embed a community logic in which legitimacy, verification, and trust emerge from collective participation rather than hierarchical oversight (Davidson et al., 2018; De Filippi et al., 2020; Ungureanu, 2025b). This decentralized design helps explain why blockchain is an ideal context for studying institutional work, as actors frequently mobilize these governance features to critique existing arrangements and propose alternative modes of coordination (Ungureanu, 2025a).

Although these technical features (decentralization, immutability, transparency, programmability) are central to blockchain's architecture, they are equally, if not more, important as prospective affordances: imagined possibilities for disintermediation, accountability, algorithmic governance, and trust reconfiguration that circulate long before the technology is fully operational. Because blockchain remains in its early stages of development and adoption, many ventures and stakeholders interact not with actualized affordances, but with future-oriented institutional claims, framing blockchain as a solution to coordination failures, corruption, systemic inequalities, or governance limitations (Jacobetty & Orton-Johnson, 2022; Ungureanu, 2025a). In this sense, blockchain operates simultaneously as a technical invention and as an institutional imagination -i.e., an object through which actors envision alternative social and organizational arrangements.

Amid volatility in cryptocurrency markets and concerns around speculation, fraud, and environmental impact, increasing attention has turned to applications of blockchain "for good," aligned with the United Nations' Sustainable Development Goals (Al-Saqaf & Seidler, 2017; Casino et al., 2019). Given that the blockchain technology is still very young, most of the technology designers proposing real world use cases are startups(Casino et al., 2019; Tandon et al., 2021), including those that propose use cases of blockchain for social impact (Al-Saqaf & Seidler, 2017). These ventures leverage blockchain's prospective affordances to propose solutions to societal challenges across domains including supply-chain traceability, energy sharing, digital identity, healthcare, education, humanitarian aid, and environmental sustainability.

The empirical basis for this study consists of 371 ventures developing blockchain-based solutions for social and environmental impact. This sample provides a rich lens on the Blockchain for Good (B4G) domain, an emerging sub-field of blockchain where actors mobilize multiple institutional logics. B4G is an emerging sub-field of blockchain striving to gain distinctive legitimacy by combining the market logic of technological innovation and efficiency, the state logic of accountability and public governance, and the community logic of participation, ethics, and social purpose (Chow-White et al., 2020). Because many of the proposed applications rely on affordances that are not yet actualized, the B4G space offers a unique opportunity to observe how actors mobilize prospective rather than realized affordances to critique existing institutional arrangements, articulate future possibilities, and perform the institutional work that contributes to early field emergence. Moreover, while most affordance research has centered on market or corporate logics, such as efficiency, optimization, and knowledge sharing, far less attention has been paid to community-oriented logics or to how these interact with market imperatives (Faik et al., 2020). Because blockchain technologies, and B4G in particular, frequently foreground community issues and social impact (Al-Saqaf & Seidler, 2017), this setting offers a valuable opportunity to extend affordance studies towards societal and mission-driven domains.

3.2. Data collection

To examine how actors enact institutional logics through prospective technological affordances in an emerging field, attempts were made to identify the entire population of ventures claiming blockchain applications for social good -i.e., enterprises or projects that propose blockchain innovation (new opportunities, markets, or technologies) to address social, environmental, and humanitarian challenges and create positive impact. An initial database was generated thanks to a collaboration with PositiveBlockchain, a non-profit association which lists an open-source database of blockchain ventures (i.e., projects, enterprises and startups) using blockchain technologies for social impact in alignment with United Nation's sustainable goals agenda. The database, to which setup the author also participated during the 2020–2021 interval, lists ventures identified through a combination of web scraping and crowdsourcing techniques, cross-verified and classified in collaboration with PositiveBlockchain's strategic partners and experts in blockchain and social impact (i.e., blockchain foundations, associations, and universities). In addition to PositiveBlockchain's database which at the time counted 850 entries, a web scraping code was run autonomously to identify new ventures, and all the entries in the database were manually verified, adding, deleting or reclassifying several ventures. A manual multi-stage process was subsequently designed to identify ventures with characteristics of interest for the present study: 1) ventures which relied fundamentally on the blockchain technology; 2) were in activity and 3) provided at least basic information about the project on their websites or in the media such that at least elementary information about their goals, mission, use of technology and field of application could have been

Table 1
Data sources.

Blockchain ventures (enterprises, projects, startups) by application domain		Types of data sources	
Decentralized finance (Defi)	69	White Papers & Reports	272
Supply chains & consumption	92	Website Information	99
Energy consumption & distribution	52	Presentation Videos	260
Healthcare	67	Presentation Images	1281
Public governance & administration	63		
Humanitarian aid & impoving living conditions	58		
Environmental sustainability	19		
Other (miscellaneous)	23		
Total ventures	**371**	**Total data sources**	**1912**

extracted. These criteria counted out ventures which did not have websites or social media pages, ventures whose websites/pages were no longer active, and all other ventures for which it was impossible to retrieve other information than name, contacts and cryptocurrency valuation. Application of these criteria generated a sample of 371 ventures. For each entry, the author collected and analyzed secondary data under the form of white papers, reports and website information including presentation text, images and short videos. Whitepapers are foundational documents produced by blockchain ventures to outline the problem they aim to address, explain the proposed technical solution, and articulate the technological and institutional claims underpinning their design; In early-stage blockchain ecosystems, whitepapers function as both technical specifications and persuasive narratives that communicate a project's purpose, governance model, and envisioned future to external audiences (Honkanen et al., 2021). During data analysis, it became evident that in addition to white papers, visual and video data such as images and short presentation videos played a highly significant role in conveying prospective affordances and performing institutional work at the crossroads of multiple institutional logics. To maximize data available across ventures, I conducted additional searches for such material on the world-wide-web, totaling 260 presentation videos and 1281 images (minimum 1 for each venture). The white papers, reports, photos, videos, interviews and video speech transcripts were imported into an integrated database in Dedoose, a web-based software for qualitative data analysis. Table 1 below provides an overview of the number of ventures in the dataset and the types of data sources employed.

3.3. Data analysis

To analyze the data, the study adopted a grounded theory approach to data analysis (Strauss & Corbin, 1998). This approach involved iteratively moving between empirical material and emerging conceptual insights to identify patterns in how ventures contribute to the emergence of the B4G field, with particular attention to the relationship between affordances, the institutional logics they mobilize, and characteristics of the nascent field. The first phases of data analysis involved open-coding of recurrent first order concepts which subsequently constituted the base for axial coding for the development of second-order themes, working up to more abstract theoretical themes based on selective coding (Strauss & Corbin, 1998). Throughout these stages, the analysis process prioritized three lenses: (a) attention to data's dynamic-static elements, (b) temporal references and (c) combining multiple data sources. Regarding (a) data's dynamic-static elements, a first series of open codes regarded the mission, vision and goals of the ventures, the main contexts and sectors of application, the targets of the communications, as well as references to social meanings, uses and practices afforded by the technologies proposed by each project. By moving across elementary codes regarding ventures' mission, vision, goals, contexts and sectors of application, 7 domains of technology application were identified -i.e., decentralized finance, supply chain of mass goods, energy consumption and distribution, healthcare, public administration and governance, humanitarian aid and improved living conditions, and environmental sustainability, and, across these domains, 4 cross-cutting institutional shortcomings that were described as underlying many of the grand societal challenges of our times: inequality, lack of responsibility, inefficiency, and limited information access. By analyzing the social meanings, uses and practices that each venture associated to their blockchain application, I identified blockchain's prospective affordances. At a first look, it was evident that each project mentioned a vast range of affordances intended for a broad and often indefinite public; I thus first generated a long list of blockchain-related affordances as mentioned in each project (e.g., decentralization, immutability, security, transparency, democracy, freedom, disintermediation, usability, interoperability, scalability. Etc.). In a following step, I generated codes about how these affordances were related to the grand challenges and the underlying institutional shortcomings that ventures mentioned in their mission and vision, and coded for ventures' solutions to these latter (e.g., access to resources, strategic market advantages, disintermediation, deregulation, gain & speculation; debureaucratization; improving state efficiency and competence, cost savings, optimization and efficiency, democratization of access to resources; improved fairness and equality, strengthening bonds between individuals and communities; increasing social and environmental accountability).

A following step consisted of relating these solutions to grand challenges, and their underlying affordances, to institutional logics. For this purpose, I used the definitions and keywords provided by Thornton et al.'s (2012) seven ideal-type categories: market, corporate, profession, state, community, family and religion, and the keywords and definitions provided by Faik et al. (2020) in their discussion of technology affordances as an elemental category of institutional logics. Every time an affordance in the dataset contained a keyword or phrase for a logic as reported in the seminal studies of Thornton et al. (2012) and Faik et al. (2020), I attached the specific logic to the affordance and realized that many affordances referred to two or more institutional logics. This allowed directing the analytic attention to the interplay between multiple logics embedded in blockchain affordances. Initial coding was performed on the seven ideal-types, but like in the study of Faik et al. (2020), references to family and religion logics were extremely scarce and references to professional logics were rare (less than 5% of the entire code structure regarding institutional logics). Although institutional theory distinguishes between market and corporate logics (Thornton et al., 2012), the corporate logic was not analytically salient in our data. This is largely due to the nature of the dataset, which centers on early-stage ventures communicating their value propositions to external audiences. The materials here analyzed, including white papers and website information, provided limited insight into the internal managerial, hierarchical, and procedural arrangements that would allow the corporate logic to manifest. Instead, in these documents ventures predominantly mobilized narratives of efficiency, performance, innovation, and competition, which we coded under the market logic. Given this empirical pattern, we treat corporate and market logics as analytically collapsed into a dominant market logic for the purposes of the study. In the end, three logics were identified across technological affordances: market, community and state. Table 3 in the findings section provides further information and examples about coding the data for affordances and institutional logics, and their connection with grand challenges.

During the analysis, a temporal orientation was observed in the data, leading to specific coding for past, present, or future references (b). While present references were scarce, with most ventures lacking clear stage-of-development information, future affordances emerged as a key analytical focus. In reanalyzing the identified affordances according to their temporal orientation, I found that many were 'prospective' -that is, tied to imagined future possibilities- whereas others referenced conditions of enactability: present-oriented qualities such as usability, interoperability, or scalability that made these imagined futures appear feasible and invited action and mobilization. After reiterative categorization, I identified three core prospective affordances -i.e., decentralization, immutability and transparency, and three core conditions of enactability -i.e., usability, interoperability and scalability. By comparing how blockchain ventures linked prospective affordances with institutional logics via enactability conditions, a set of practices were identified and labeled as problematization, prospection and reification, based on how institutional logics were leveraged to convey the promises of blockchain technology (c). To further grasp the relationship between prospection and reification, the study queried an integrated, multimodal dataset including text, videos, and images. Recommendations from prior literature provided by Höllerer et al. (2017) and LeBaron et al. (2018) were followed to analyze and integrate videos and images with text, ensuring each mode informed and complemented the others without compromising meaningfulness and integrity. Detailed coding examples are provided in tables in the findings section.

4. Findings

This study provides evidence of how blockchain ventures across a wide range of application domains socially construct the emerging field of blockchain for good (B4G) by leveraging blockchain's prospective affordances to perform institutional work at the crossroads of market, state, and community logics. I call this process 'affordance-driven institutional work'. Findings suggest that the emergence of the B4G field is driven by interconnected practices of institutional work -problematization, prospection, and reification- each playing a key role in ventures' tentative efforts of actualizing their visions of a better world. Through problematization, ventures highlight shortcomings in existing institutional arrangements such as inequality, inefficiency, limited accountability, and restricted information access and frame these issues as requiring transformative responses that blockchain could potentially address. Through prospection, ventures draw on blockchain's affordances of decentralization, transparency, and immutability to envision a world of B4G

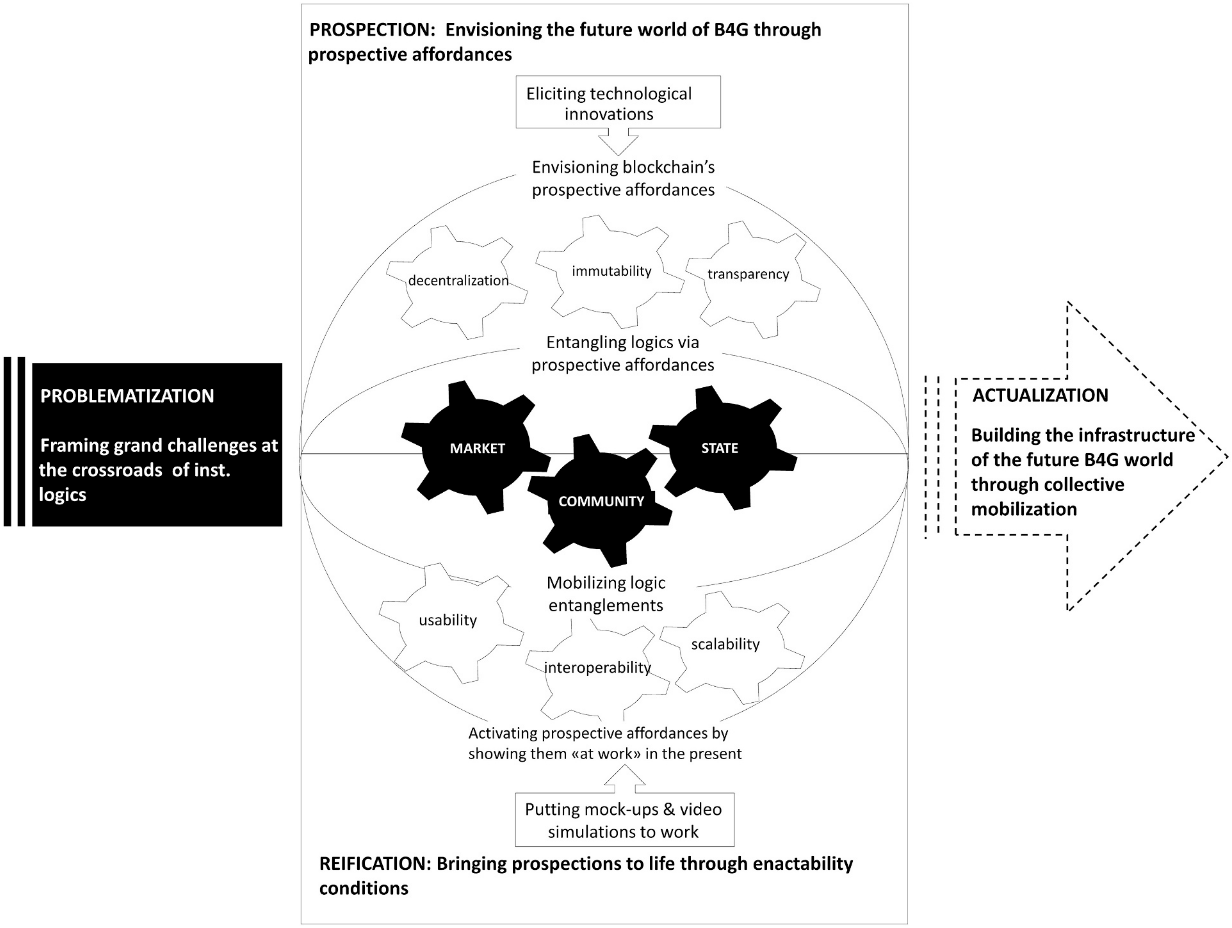


Fig. 1. A grounded theory of the emergence of the field of blockchain for good through affordance-driven institutional work: the role of problematization, prospection and reification practices in the creation of 'as-if-realities'.

that is fair, responsible, efficient, and platformed. These affordances entangle market, state, and community logics, creating a space for ventures to align their visions and drive the field's emergence. However, prospection is a transient practice, reliant on future-oriented promises rather than concrete results, and therefore distant from actualization. Reification integrates prospection, mobilizing tools like mock-ups and video simulations to make these visions appear real, even before full technical realization. A set of conditions of enactability -i.e., usability, interoperability and scalability- bridge the gap between vision and actualization, mobilizing resources and creating momentum for actualization. Together, these practices concur to the construction of as-if-realities, idealized future visions of the emerging technological field which are enacted in the present with a constitutive force. The grounded model resulting from the data analysis is anticipated below in Fig. 1 and will be described into detail in the following sub-sections.

4.1. Crafting as-if-realities: towards a future world of blockchain for good

Ventures proposing blockchain applications across a wide range of domains envision a radically new world dominated by new generation platforms expected to disrupt pre-existing boundaries between market, state and community logics in order to solve some of the greatest challenges of our times. Across white papers and videos, ventures referred to the potential of new generation platforms that operate without central authorities or intermediaries, to reorganize economic, social, and technological domains of activity as multi-sided interconnected systems where individuals and communities are empowered to take full control of their data, assets, and decision-making processes. We labeled this potential as 'platformization'. Within this paradigm, blockchain technology transcends borders, fostering a globally interconnected and boundaryless world in which society is more inclusive and equitable while individuals wield unparalleled autonomy and sovereignty over their property, information and identities, as exemplified in the following excerpts:

"By leveraging smart contracts and cryptographic advancements, blockchain makes the world a more connected, transparent and secure place, changing the rules of the game forever". (ImpakFinance, WhitePaper).

"In summary, blockchain is not a ready-made system, it is a technology in development which will revolutionize the world as we know it (…) It will free us all from intermediation, and allow for individuals and communities to experience sovereignty as never before" (Fairfood,WP).

As demonstrated in the excerpts above, blockchain ventures communicated a vision of technological utopia that spanned market, state, and community logics. This vision heavily relied on future prospects that often diverged from the current state of blockchain technology and its proposed applications. Noteworthy, while ventures provided substantial details about their projects, information on developmental stages was frequently vague, ambiguous, or entirely absent. Most white papers lacked clear descriptions of business models and did not specify the current status of the projects. Yet, B4G was often described as a reality in the making with constitutive effects on the present. I called this process "crafting as-if realities". By existing in a constant state of development, blockchain promises to transcend established norms and institutions, and frames the present within the context of its transformative potential, offering promises of a better world.

"*The cryptocurrencies have challenged many concepts that were considered established, bringing radical changes in many aspects of the society; they have proven that it is possible to overturn secular status and they also help us to redefine the unassailable roles of some institutions." (Helperbit, WhitePaper).*

The remainder of the findings section is structured to explain how ventures transform emerging blockchain technologies into as-if realities by leveraging the transient space between promises and actualization.

4.2. Problematizing cross-cutting institutional challenges

This study shows that the B4G field is constructed by ventures acting across several domains, including decentralized finance (DeFi), supply chains, energy, healthcare, public administration, humanitarian aid, and sustainability. Across these domains, actors consistently identify a set of cross-cutting institutional challenges underlying some of our times' grand societal challenges: inequality, lack of social and environmental responsibility, inefficiency, and information access.

Deeply entrenched societal problems such as poverty, climate change, health disparities, food insecurity, environmental degradation, and humanitarian crises are generated by these institutional challenges, which emerge from the complex interplay of market, state, and community logics embedded within existing systems. Institutional challenges are cross-cutting because they span multiple institutional domains, and underlying because they shape and reinforce the broader grand societal challenges that ventures seek to address. Table 2 summarizes how the institutional challenges underlying grand societal challenges were discussed across domains of application and across multiple institutional logics.

4.2.1. Inequality

The socio-economic challenge of inequality remains one of the most pressing issues in modern society, encompassing the unequal distribution of resources, opportunities, and services, which perpetuate economic and social disparities (Amis et al., 2018). Inequality also emerged as the most frequently cited grand challenge for blockchain technology. Ventures across various domains emphasize how centralized systems and intermediaries restrict resource access, marginalize underserved communities, and deepen inequities. For example, access to financial services remains limited for millions, particularly in developing regions, where traditional financial institutions exclude individuals lacking formal identification or credit histories, creating systemic barriers to inclusion. As many ventures explained, "*There are 2.5 billion unbanked people who do not have access to banking or financial tools today*." (Colendi, VST).

Blockchain ventures propose solutions to these systemic flaws. Decentralized Finance (DeFi), a pioneering sector within blockchain applications, seeks to transform traditional financial systems by addressing issues like unequal access to resources, high transaction fees, and reliance on intermediaries. Applications in humanitarian aid, philanthropy, and living conditions such as Giveth and Aidcoin

Table 2
Problematization: framing institutional challenges at the crossroads of market, state, and community logics (1st, 2nd order themes and exemplary excerpts).

Institutional challenges/ Domains	Inequality	Lack of responsibility	Efficiency	Information access
Decentralized Finance (DeFi)	- Unequal access to financial resources and services - Discretionary power of financial institutions and intermediaries; *"At AgUnity, we envision a world where smallholder farmers, fishers, and their cooperatives are fully integrated into the global agricultural ecosystem. We believe in the power of digital technology to bridge gaps, foster inclusion, and unlock the full potential of agriculture in emerging markets." (Ag Unit, WP)*	- Lack of accountability in financial reporting - Inaccuracy in financial transactions; *"Traditional local banks and credit unions offer unsecured loans (…) In this case the lender is taking a lot more risk and would likely charge a higher interest rate. The riskier the loan, the more expensive it will be. We are going to change that." (Fintrux, WP)*	- High transaction fees - Lack of coordination among financial stakeholders – Opportunities for individual utility (i.e., gain & speculation), cost savings, optimization and efficiency *"Financial Institutions find difficulty in keeping up with the ever-changing regulatory compliance from their Central Banks, and their IT departments are slow to automate the business processes of AML, CFT and fraud." These increased risk and operating costs affect end customers in the form of inconvenience in providing additional information, higher fees and slower service." (Chynge, WP)*	- Lack of transparency in financial transactions – Inaccessible financial data - Lack of trust in financial institutions;
Supply Chains	- Unequal access to supply chain opportunities - Lack of power of producers and consumers within supply chains; *"Food is the most fundamental need and billions of people depend on cultivating, processing, and selling food, particularly in developing countries (…)Individuals, groups, and regions may be at a disadvantage due to lack of access to technological infrastructure, related skills and tools (…)" (Hara, WP)*	- Non-compliance with regulatory standards; counterfeiting; *"The current situation on the market requires a solution to this issue. Milk producers periodically recall the need to confirm the quality of dairy products, in order to identify counterfeit and create conditions for fair competition." (SmartAgro, WP)*	- Ineffective collaboration among supply chain stakeholders; *"As expected in this layer of the supply chain, manufacturers experience significant stress on their businesses and workforces which include price, financing, and attracting/maintaining labor." (Everledger, WP)*	- Lack of end-to-end visibility – Inaccessible supply chain data (data silos) - Inefficient data management; *"The lack of near-time valuable data creates many hidden problems to all stakeholders across the agriculture and food value chain, for example: (…) A customer today would want to know where a juice comes from, how it was produced, or if it was exposed to harmful materials since being produced. This information does not exist" (Hara, WP)*
Energy	- Unequal access to energy resources and fair pricing - Limited contractual power on consumers' side; *"A decentralized approach to certifying all energy transactions between validated players in the ecosystem: consumers, prosumers, suppliers (utilities) and grid operators (distribution and transmission) means that power is not concentrated in the hands of a few, but spreadout among many." (Prosume, WP)*	- Environmental degradation and unsustainable practices – Irresponsible energy consumption - Non-compliance with regulation; *"Energy companies are incentivized to sell the most energy at the highest possible price. This means there is no real incentive to reduce your energy consumption until now" (EnergyMine, WP)*	- Inefficient energy distribution and consumption- Lack of access to renewable energy sources - Inadequate energy infrastructure, limited competitiveness; *"Blockchain technology can help reduce solar costs considerably. Using smart contracts, a community can establish partial asset ownership, governance, and profit division so the entire process of owning one piece of an asset is automatic, trusted, seamless, and cheaper" (EnergyWeb, WP)*	- Lack of transparency in energy pricing and distribution – Inaccessible energy consumption data - Lack of trust in energy markets; *"Enledger enables you to participate in the new renewable energy Revolution by creating alternative energy business models and marketplaces (…) fights lack of transparency and allow information to flow along energy supply chains" (Enledger, VST)*
Healthcare	- Unequal access to healthcare services and medical data - Incomplete medical histories; *"The Gene-Chain was intended to solve problems affecting science and society, and to give power and share wealth with those who choose to offer their*	- Lack of accountability for sensible data; *"Sure, it's fun to send your DNA off to a lab to find out more about who you are where you come from (…) but did you know that most genetic testing companies now retain your results for themselves and have the ability to resell your genome data to*	- Ineffective healthcare delivery processes - Inefficient medical record management; *"Health and government organizations spend a significant amount of time and money setting up and managing traditional*	- Siloed data management - Data privacy issues; *"The vast majority of hospital systems still can't easily (or safely) share their data. As a result, doctors are spending more time typing than actually talking to patients." (Patientory, WP)* *"As a patient, it is almost impossible*

(*continued on next page*)

Table 2 (*continued*)

Institutional challenges/ Domains	Inequality	Lack of responsibility	Efficiency	Information access
	genetic data for the sake of scientific advancement (…), not just the Pharma giants (…)"(Encrypgen, WP)	*research and development companies?" (EncrypGen VST)*	*information systems and data exchanges; requiring resources to continuously troubleshoot issues" (Patientory, WP)*	*to get trusted and unbiased information about relevant medical clinics." (Etheal,VST)*
Public Governance	- Unequal access to government services and participation - Lack of citizen participation in governance processes; *"Estonia has an open business environment where all company information is publicly available. It also ranks among the best in the world for transparency, rule of law and anti-corruption. We are empowering entrepreneurs everywhere no matter where you were born. No matter what passport you carry" (EstoniaTech, VST)*	Risks of fraud & errors, lack of keeping up; *"Do we as Citizens want our life events to remain buried in government's current paper driven business processes anchored down by legal systems, or do we want our governments to be built with next-generation digitalized enabling platforms to support new ways of working?"(Civicledger, VST)*	- Inefficient public service delivery and decision-making processes - Exposure to single points of failure; *"Most voting is still done offline through polls and ballots; their accompanying paperwork are costly inconvenient and require a lot of time and effort to organize and run. Blockchain voting is about to change all that forever" (Polys, VST)*	- Lack of transparency in government processes and decision-making – Inaccessible government data - Lack of memory and traceability; *"In the present scenario, the identity of entities (organizations, individuals, and devices) is fragmented. Citizen information is duplicated, disconnected, and often insecure, while verification processes can be highly manual, inefficient, and expensive." (DeloitteSmartIdentity, WP)*
Humanitarian aid & improved living conditions	- Unequal distribution of aid and resources across the globe, disparities in living conditions; *"Minority communities have notoriously been shut out of economic growth for generations, to the detriment of all people. We're on a mission to change that." (UrbanArray, WP)*	- Philanthropic fraud and mismanagement - Lack of accountability in aid distribution; *"The ecological crisis facing humanity is the result of failing to account for the aggregate impact of decisions initially made for increased efficiency, profit and comfort. This process of externalizing costs causes degradation of common re-sources [Bol14]. (RegenNetwork WP)*	- Ineffective infrastructure development and service provision - Poor quality of life Inefficient aid distribution; *"Funding for aid is reactive slow and centralized and driven by political will or media headlines. NGOs are disconnected and overwhelmed by the scale of need. This means that millions of people are left without humanitarian assistance when they're most needed (..:) when help did come it was often too late, or of the wrong kind" (StartNetwork, WP)*	- Lack of transparency in development & aid initiatives – Inaccessible data on initiative impact - Lack of trust in humanitarian aid; *"Lack of informational transparency is key here (…) By using the transparency of the blockchain to provide irrefutable proof of milestones, voting, and movement of funds, we aim to bring significantly more money and donor engagement to all good causes we work with (…)" (Promise, WP)*
Environment sustainability	- Unequal participation to solving climate change across the globe *"Even as we slowly plummet towards a likely uninhabitable Earth post crossing 1.5 degrees Celsius, fossil fuels continue to dominate the global energy market (…). In Bangladesh, renewable energy makes up a mere 3% of the total energy production ratio, a dire number, made even more grievous by the fact that we remain seventh on the list of countries most vulnerable to climate change" (Solshare, WPr)*	- Climate change, greenhouse emissions, lack of shared practices for measuring carbon footprints *"Coupled with the imperative for economic growth, [environmental] degradation has followed an exponential curve over the past two centuries, culminating in accumulation of atmospheric carbon, mass extinction of species and depletion of the natural resources (…)" (RegenNetwork WP)*	- Climate change threats to market efficiency, corporate reputations and *"Climate change poses a major risk to the global economy, affecting the wealth and prosperity of all citizens and nations around the world (…) The untapped and undervalued Natural Capital asset class is estimated to be worth in excess of USD $120 trillion, while specific assets represented by institutions and individuals committed to some sort of divestment from fossil fuels is estimated to reach $5 trillion" (EarthToken, WP)*	- Limited data on environmental degradation *"Disclosure and transparency of carbon dioxide in the atmosphere is a key element to identify climate risk drivers (physical and transition risks) and support the required reduction in anthropogenic emissions." (Bitlumens, WPr)*

LEGEND: WP = White Paper; VST = Video Speech Transcript; WPr = Website Presentation; 2nd order themes: 'grand challenges' & 'domains'; 1st order: regular text; examples: cursive text.

seek to improve marginalized communities' connectivity, while initiatives like Win and Start Network explore ways to verify the qualifications of vulnerable individuals, empowering them to secure employment and achieve self-sufficiency, as suggested in the following excerpt:

"Today, more than a billion people around the world lack that most basic of human rights: recognized personhood." (WIN, VST).

In global supply chains, producers from developing countries often face power imbalances, with little visibility into fair pricing or equitable profit distribution. Ventures such as GrainChain, Wine Blockchain, and Fairfood highlight how limited access to information undermines trust and collaboration, reducing the power of producers and consumers while benefiting intermediaries like retailers. These challenges reflect systemic flaws in market structures and supply chains that blockchain ventures seek to address.

4.2.2. Lack of responsibility

This institutional challenge refers to widespread unethical practices, corruption, and insufficient accountability mechanisms across sectors. It manifests in forms such as financial fraud, opaque governance structures, environmental neglect, and the exploitation of vulnerable populations. Ventures across domains highlight how centralized systems often enable irresponsible actors to evade scrutiny, weakening institutional trust and reinforcing systemic inefficiencies. Table 2 provides several examples of responsibility problematization across domains.

In supply chains, as explained by ventures such as Chronicled and Vinchain, the responsibility challenge often involves unethical practices such as labor exploitation and environmental degradation, due to the lack of current viable ways to verify the fair trade and traceability of products. Similarly, in the financial sector, opaque transactions and limited oversight create opportunities for fraud, corruption, and market manipulation. In public governance, the absence of robust mechanisms to enforce accountability allows the proliferation of corruption, mismanagement of public funds, and eroding public trust in institutions. In relation to environmental issues, ventures such as Nori, Climate Coin or Evergreen Coin highlight unsustainable practices that lead to environmental degradation, lack of accountability in energy consumption and the frequent cases of non-compliance with environmental regulations. By stressing the need for individual responsible action, ventures highlight the pivotal role that blockchain technology can play in such process and call for action and mobilization, as shown in the following excerpt:

"No matter where you are on this planet the climate is changing and land is degrading at a rapid rate. This impacts every single person in the world because it affects our access to clean water and healthy food. This is why you need to get involved NOW" (Regen.Network VideoSpeechTranscript).

Inefficiency refers to the suboptimal use of resources, time, and effort across all areas of human activity. Blockchain ventures frequently highlight inefficiencies in traditional systems, such as wasted resources and missed opportunities for optimization. In public administration, bureaucratic processes are criticized for being slow, opaque, and cumbersome, hindering service delivery and exposing systems to single points of failure, as explained in the following excerpt:

"Verification methods are extremely outdated and inaccurate. They require manual processing which makes the process expensive, time-consuming, and prone to error on multiple levels." (Verif-y; WP).

Initiatives like Smart Dubai, Singapore Smart Nation, and Estonia *E*-residency aim to reduce delays and improve efficiency and transparency in public administration. In supply chains, inefficiencies stem from manual paperwork, fragmented organizations, lack of integrated solutions and limited real-time visibility, leading to delays, errors, and higher costs. Similar challenges appear in the energy and healthcare sectors, where inefficient management practices hinder the quality and reliability of services.

As exemplified also in Table 2, inefficiency issues affect markets, states and communities, demanding systemic reform. For example, Vector's and Bitlumen's White Papers explain how integrating IoT and blockchain in energy markets addresses environmental responsibility while improving individual utility and market efficiencies. Table 2 provides further examples of how inefficiency spans logics across domains and requires integrated solutions grounded in multiple logics.

"There is an urgent need for sustainable transition. But most importantly, there is a need to find a sensibly balanced gas transition compact that meets the objectives of Government (carbon and affordability objectives), customers (disruptive supply and cost of appliance replacement) and gas network infrastructure owners (financial return and economic maintenance). If a clear transition path cannot be agreed, there are likely to be significant customer cost implications as well as major disruptions for businesses and households" (Vector, WhitePaper).

4.2.3. Information access

Limited access to accurate, timely, and reliable information represents a cross-cutting institutional shortcoming that affects all domains in which blockchain ventures operate. Blockchain ventures across domains problematize the lack of transparency and visibility in existing financial, consumption, energy, healthcare or humanitarian aid systems, which often results in information asymmetries, mistrust, and missed opportunities for collaboration and innovation. For instance, in healthcare, the lack of accessible and interoperable medical records hampers patient care and research advancements. In supply chains, limited visibility into product origins and movement enables fraud and counterfeiting. Similarly, in public governance, the absence of transparent processes fosters corruption and undermines accountability. While some ventures such as Smart Dubai, Singapore Smart Nation or Estonia E-residency see blockchain as a tool to improve government performance (i.e., see market logic), others associate governments with inequality and irresponsibility, and propose more radical visions of a stateless world. For instance, Aragon or Bitnation question the state logic and suggest the need to replace governments with blockchain-supported digital decentralized identities (DDIs), an approach to identity and access administration that allows citizens, businesses, and government affiliates to manage their personally identifiable information without a centralized third party:

"Before nations, before borders there was the Pangaea supercontinent. Since then, the world has been divided by tectonic shifts, widening oceans and stifling politics. Nation states are crumbling under the weight of local and global challenges that they seem incapable of solving. Rather than embracing a borderless world and increasing personal freedoms, governments and multinational organizations have overseen a surge in bureaucracy protectionism. Blockchains and DDIs can enter our personal lives to prevent the drift towards tyranny." (Bitnation Pangea, VideoSpeechTranscript).

"So you ask me if there's gonna be a revolution? I think there's already a revolution. We're seeing it everywhere. Honestly, I feel like

blockchain is almost slipping through the cracks. They don't even see that we're a threat yet. If you have a decentralized entity that people can opt intoand that starts performing services that the government used to provide, then what do you need these guys for? (…) We have evolved so much as a society, yet our government structures are centuries old (…) Blockchain is the most egalitarian way to build systems. The culture is moving much faster than nation states can handle" (Aragon,VST)".

In sum, the cross-cutting institutional problems described above are deeply rooted in multiple institutional logics, each of which brings distinct assumptions, priorities, and constraints. Market logic prioritizes efficiency and competition, state logic emphasizes regulation and accountability, while community logic focuses on equity and collective welfare. Given the complex, interwoven nature of these issues, no single logic can adequately address them in isolation. As many ventures explain in their problematization efforts, solving inequality requires the redistribution of resources (state logic), the creation of inclusive economic opportunities (market logic), and community-driven initiatives to empower marginalized groups (community logic). Similarly, increasing accountability or improving information access requires regulatory frameworks to ensure transparency (state logic), technological innovation to enable secure and decentralized information sharing (market logic), and community involvement to establish trust and credibility (community logic). Institutional pluralism highlights the important role of institutional work in dealing with grand challenges, and the need to embed institutional work in the technological solutions that blockchain ventures propose across domains of application, as exemplified in the following excerpt:

"We are now at a point where neither markets nor hierarchies have the capacity to handle the set of problems that are facing. If you can't accelerate your capacity for solving problems exponentially, you're done. We have to invent an entirely new toolkit for how human beings can coordinate their sense making, their choice making and their actions into new forms of collective intelligence never reached before (…) Blockchain technology provides an unprecedented occasion to think about these longstanding problems in new ways (…) it (blockchain) becomes THE toolkit" (DAOStack, VideoSpeechTranscript).

To substantiate solutions to these systemic institutional challenges and achieve the transition from problematization to actualization, blockchain ventures engaged in two transitional practices which aimed at turning the futuristic vision of B4G into an as-if-reality in the present: prospection and reification.

4.3. Prospection: envisioning the future world of B4G through prospective affordances

Prospection refers to the practice of constructing future-oriented scenarios in which blockchain's prospective affordances are presented as enabling new institutional arrangements. Instead of simply forecasting technical innovation, ventures entangle the institutional logics of market, state and community with affordances such as decentralization, immutability, and transparency to articulate how future systems could operate differently. Table 3 below provides an overview of this process and exemplary excerpts from ventures' white papers, video and website presentations. The first two columns show how ventures across domains evoke blockchain's affordances by referring to some of its groundbreaking technological innovations such as smart contracts, peer-to-peer cryptography, and tokenization. Smart contracts automate agreements without intermediaries, ensuring tamper-proof and transparent execution, while peer-to-peer cryptography secures decentralized interactions and builds trust through shared, accessible data. Tokenization represents assets on the blockchain, enabling immutable and transparent ownership records. Together, these innovations empower blockchains to function in innovative ways, bridging boundaries across market, state, and community domains and addressing societal challenges in new ways. Columns 3 and 4 show how the prospective affordances of these innovations are expected to address the problematized institutional challenges by spanning the boundaries of market, state and community logics, and entangling them according to purposes at hand. As follows, I present each prospective affordance individually, highlighting its link to blockchain's technological innovation, its role in entangling institutional logics, and its contribution to addressing grand societal challenges through these entanglements.

4.3.1. Decentralization

Decentralization is widely regarded by ventures as blockchain's core affordance, enabling the redistribution of power and resources across society. It promises to address key societal challenges, particularly inequality, by reducing reliance on centralized institutions and creating opportunities for marginalized groups to access resources currently controlled by powerful intermediaries. Through peer-to-peer systems, lending platforms, and crowdfunding, DeFi ventures aim to democratize financial access and empower marginalized communities across the world. For instance, ventures like Gravity, IXO Foundation or Bisq promise peer-to-peer money exchange solutions across currencies, borders and regulations, while Celo, Giveth and WFP Building Blocks support communities in establishing their own financial systems promoting financial inclusion and banking the unbanked. In developing nations, cryptocurrency-based economies are proposed as emerging solutions, such as hip-hop singer Akon's $6 billion Akon City, a blockchain-powered initiative in his native hometown in Senegal (Akoin).

Similar patterns were found in the energy domain where more equitable access to energy resources is sought through decentralized energy markets. Initiatives like The Sun Exchange, Pylon, Prosume, Bitlumens, Ampere and PowerLedger promise to revolutionize the energy sector by promoting renewable energy sources in underserved communities and enabling peer-to-peer energy trading, among others, while ventures such as Healthureum aim to address healthcare disparities and reduce power imbalances with respect to healthcare providers (for further examples see Table 3).

"A decentralized approach to certifying all energy transactions between validated players in the ecosystem: consumers, prosumers, suppliers (utilities) and grid operators (distribution and transmission) means that power is not concentrated in the hands of a few, but spread out amongst many." Prosume (WP).

Finally, decentralization promises market efficiencies by removing intermediaries, thereby enabling faster, more cost-effective

Table 3
Prospection: envisioning the future through prospective affordances and logic entanglements (1st, 2nd order themes and exemplary excerpts).

Prospective affordances	Eliciting technological innovations	Solving institutional challenges with prospective affordances	Institutional work: entangling market-state-community logics via prospective affordances
Decentralization	- Smart contracts: automate decentralized execution of agreements - Cryptography: ensures secure, decentralized communication and transaction verification. -Tokenization: provides new ways of access. *"At its simplest, the blockchain is a digital record stored on a network of computers around the world. Instead of securing information by restricting access, the blockchain shares information among all users" (ImpakCoin, WP)* *"RightMesh targets an opportunity for economic inclusion into emerging markets to provide connectivity, incentivizing and rewarding the related network effect of the RightMesh software* via *a smart token economy." (RightMesh, WP)*	- Inequality: redistributes power- Lack of responsibility: promotes shared governance. - Efficiency: removes intermediaries - Information access: restores ownership *"There is no longer need for a middleman such as bank or current payment system who charge expensive fees as 2–10% in the form of platform fee, tax and* etc. *Information could be ours to hold" (EdgeCoin, VST -inequality, efficiency, information access)* *"We are Estonia Tech. We are empowering entrepreneurs everywhere no matter where you were born. No matter what passport you carry, you can apply for e-residency to run your business from anywhere in the world." (EstoniaTech, VST -inequality)* *"Colendi was founded to empower every individual regardless of gender, background, financial position, banked or unbanked to give them financial freedom and financial inclusion through simple, easy-to-use products." (Colendi, Wpr -inequality)*	Aligns market (efficiency) with community (participatory governance), challenging state reliance on centralized control. *"We are committed to becoming an environmentally sustainable government at smart Dubai. We've launched our paperless strategy to be completely paper free by 2021 and we're pursuing new models of efficiency based on decentralized governance. Our main mission is to advance the concept of State." (DigitalDubai, VST)* *"Our democratic, decentralized community is united around a mission to combine technology and collaborative action to mobilize people everywhere to educate one another, pool resources, and create thriving sustainable microeconomies in historically divested neighborhoods. Our ultimate goal is to create an equitable and sustainable world in which all people are empowered to grow their economies, sustain meaningful employment, take care of their families, and build generational wealth." (UrbanArray, WP)*
Immutability	- Smart contracts: enforce tamper-proof contract terms. - Cryptography: ensures transaction verification *"The decentralized structure of the blockchain brings several key features in contrast to traditional centralized approaches: • Transparency: it is possible for anyone to track the movement of funds from one account to another. • Immutability: once confirmed, a transaction cannot be reversed. No one can interfere with a completed transfer" (ImpakCoin, WP)*	- Inequality: Secures fairness - Lack of responsibility: ensures accountability- Efficiency: removes disputes.	
- Information Access: protects data integrity. *"Blockchain offers immutability, transparency, and decentralization. Once the data is written into blockchain it cannot be tampered with, and that data is accessible to involved parties and stored in a globally distributed network - making it resistant to cyberattacks." (WePower, WPr -information access)* *"Should a student lose access to their educational identity such as in the case of displaced refugee populations, ODEM has a social claims verification process where a student's educational records can be recreated through a process called Identity Through Education (ITE). Once recreated, the students records become part of their immutable EAR." (Odem, WP, inequality, information access)*	Integrates state (rule enforcement), market (efficient contracts), and community (trust-building) through tamper-proof records. *"Blockchain makes it possible to create a digital ledger of transactions, that is shared among a network of computers, without the need for one central server or authority. Because of this distributed character of the blockchain database, governments and central commercial organizations will find it impossible to control or shut down the registration of transactions in the network (…) Immutability is disruptive; it opens up a new era of contestation over private organizations, markets, states and powerful groups of interest" (Publicism, WP)*		
Transparency	- Cryptography: ensures transparent yet secure access to data.	- Inequality: democratizes information- Lack of responsibility:	Combines state (accountability), market (openness for competition),

(*continued on next page*)

Table 3 (*continued*)

Prospective affordances	Eliciting technological innovations	Solving institutional challenges with prospective affordances	Institutional work: entangling market-state-community logics via prospective affordances
	-Tokenization: opportunities to participate in transparent, verifiable records of ownership and exchanges. *"Tokens can be used to create transparent, verifiable records of ownership and exchanges" (Clinicoin, VST).* *"NOIZ uses a revolutionary Proof of Stake mechanism, which allows NOIZ platform actors to hold themselves accountable for each other's actions." (Noiz, WP)*	exposes actions - Efficiency: improves coordination. - Information access: enables open data. *"By using the transparency of the blockchain to provide irrefutable proof of milestones, voting, and movement of funds, we aim to bring significantly more money and donor engagement to all good causes we work with." (Promise, WP - efficiency, lack of responsibility)* *"Oxfam believes, at minimum, transparency for the UnBlocked Cash pilot means 'anyone with access to the network can view a history of transactions in real-time.' Oxfam acknowledges that not everyone served by the Sempo platform has access or the literacy to comprehend the information stored on the network. Nevertheless, by deploying the solution to the Ethereum mainnet, Sempo ensures that the platform meets Oxfam's definition" (Sempo/ UnBlocked Cash WP, Information access).*	and community (collective ethical oversight). *"Our globally recognized SOLbazaar has developed into a decentralized and transparent energy marketplace to fight access deficits to sustainable energy services.* Via *our SOLbazaar platform, equip vulnerable communities with awesome energy services, creating synergies between energy and transport to provide access to clean affordable energy, micro-mobility services, financially inclusive PAYG technology and IoT devices, and C&I solar rooftop installations" (Solshare WPr)* *"The idea behind Dentacoin is revolutionary but it is also inevitable. There is an obvious solution to the problems of various industries (…) it goes beyond state and market and focuses on people's needs and it's just a matter of time until communities implement it and reap the benefits thereof. That solution is blockchain (…) and its main benefits [are] transparency and decentralization" (Dentacoin, WP)*

LEGEND: WP = White Paper; VST = Video Speech Trascript; WPr = Website Presentation.

transactions across domains. DeFi applications, for example, allow users to transact directly, bypassing traditional banking fees and delays, with the potential to make transactions across industries more efficient and equitable, as explained in the following excerpt:

"By joining The Big Exchange, you're doing a lot more than making your money work harder for you and others. You're helping to start a movement that aims to transform the lives of millions of people by building a fairer financial system that works for everyone. Higher return on investment to the asset owners. Investment in public infrastructure. Reduced energy bills. Promotion of local development." (Pylon, WhitePaper).

As illustrated in the excerpt above, decentralization serves as a powerful tool for institutional work, entangling market logics like efficiency and competition, with community logics, which emphasize equal rights and access to opportunities. By replacing hierarchical systems with peer-to-peer networks, decentralization also challenges state dominance over regulation and services, creating governance models that merge market incentives with community collaboration. For instance, many DeFi ventures such as Bisq, Uphold or Chynge speak to both market and community logics by promising to reduce efficiency and equality problems at the same time. The Estonian e-residency program is also a good example of how decentralization can create more efficient and equal governments as well as market opportunities for entrepreneurs globally, bypassing the restrictions of national borders and empowering individuals with the ability to run businesses remotely (see Table 3).

Uphold, a global multi-asset trading platform, further exemplifies how blockchain's decentralization affords logic entanglement even when these entail conflicting views, for instance setting side by side the financial democratization of underprivileged communities and possibilities of market speculation through instruments like futures and swaps:

"Uphold is changing the way people access money. Uphold's unique 'Anything-to-Anything' trading experience enables customers to trade directly between asset classes with embedded payments facilitating a future where everyone has access to financial services (…) Built on a core of proprietary technologies and e-money apps, Uphold embraces a future where people and businesses around the world have access to safe, transparent, fair, and affordable financial services" (Uphold, WhitePaper)".

4.3.2. Immutability

Another core affordance of blockchain is immutability, with key roles in addressing the societal challenges of inequality, lack of responsibility, and inefficiency. According to ventures' narratives, thanks to smart contracts everything can be immutably stored and automatically executed on the blockchain in an identical way, from the digitalized version of a financial payment, an investment, a donation, a market transaction for goods and services, the exchange of information, or the interconnection of physical devices. This opens up the possibility of a world of trustlessness where parties can securely transact without needing to trust, coordinate, or rely on intermediaries like banks, governments, or centralized databases. For example, in blockchain-enabled supply chains, every transaction is permanently recorded, enabling consumers to verify ethical sourcing practices and hold brands accountable for their environmental and social commitments. Ventures like Provenance, GrainChain or SmartAgro emphasize how this increased accountability has the potential to reduce fraud and build trust across markets and communities. As explained in the following excerpt, blockchain's immutability guarantees that once a transaction is recorded, it cannot be altered or erased, which is essential for fighting against fraud and unethical behaviors but also for safeguarding fairness and protecting vulnerable groups:

"*Once a transaction is entered in the database and the accounts are updated, the records cannot be altered, because they're linked to every transaction record that came before them (hence the term 'chain'). Various computational algorithms and approaches are deployed to ensure that the recording on the database is permanent, chronologically ordered, and available to all others on the network (…) the technology [is] designed to empower, elevate, and sustain the financial future of its users (…) accelerating the financial inclusion of the under-bank and the unbanked population across the Americas." (UULALA, WP).*

Immutability also enhances efficiency by eliminating disputes and the need for third-party validation. Automatized transactions based on predefined, immutable conditions are expected to reduce errors and transaction costs, optimizing processes across industries while also supporting better access to information (see Table 3 for further examples).

Just like with decentralization, the promises of immutability also contribute to ventures' institutional work. They entangle state logics, which prioritize rule enforcement and legal protection, with market logics, which emphasize the efficiency of removing disputes in economic transactions, and community logics, which highlight the role of trust and transparency in building more equal and empowered communities. By promising to provide tamper-proof records, blockchain creates a space where these logics intersect. For example, Sovrin, a decentralized identity network, empowers individuals with control over their personal data while protecting against breaches, surveillance, and exclusion. Sovrin's description of its tamper-proof system illustrates how blockchain is expected to combine multiple institutional logics to create user-centric, secure solutions, and mobilize cross-cutting interests towards a common goal.

"An immutable public blockchain never forgets. So how can a global public utility implement decentralized identity solutions? (…) A digital identity system needs more than just technical standards (…) A functioning network for an identity metasystem is a social system, and building it requires a means of building coherence to align the actions of people and organizations. We created the Sovrin Foundation to do that. Over time its role may change, but right now, there are important tasks that must be done to create coherence (…) Building a functional SSI network requires that, in addition to the technical standards, we work on several core areas: public governance, community, efficient operations, and market adoption." (SOVRIN, WP).

4.3.3. Transparency

Transparency is the third key prospective affordance of blockchain leveraged by the ventures in this study, offering solutions to the challenges of inequality, lack of responsibility, efficiency, and information access. By ensuring that data is accessible to all and verifiable, blockchains promise to reduce the information asymmetries that often disadvantage marginalized groups, for instance through blockchain-powered financial platforms that allow users to see the full breakdown of fees and services.

Transparency also promotes accountability by making decisions and actions open to public scrutiny. Government budgeting on blockchain, for example, allows citizens to trace public spending in real-time, encouraging more responsible and accountable approach to governance. Similarly, ventures committed to increasing sustainable environmental practices such as EarthToken and RegenNetwork and those promoting new models of responsible energy consumption such as Energy Chain and SolarCoin, showcase the unprecedented opportunities that blockchain create for measuring carbon footprints and identifying resource waste or damage:

"While awareness and legislation regarding climate change and the critical importance of Natural Assets grows, there is as yet no transparent mechanism to connect producers of these Natural Assets with the buyers and consumers of those assets. Today, as is the case with many industries, control and the resultant benefits reside with a privileged few (…) but all this is about to change" (EarthToken, WhitePaper).

By reducing miscommunication, blockchain transparency also contributes to greater efficiencies, as stakeholders have access to the same, verifiable information. This is particularly important in industries like supply chain management, where transparent supply chains enable better coordination between producers, distributors, and consumers, ensuring that everyone is working with the same data and reducing errors or duplications. Transparency also facilitates information access, fighting opacity and consequent opportunities for fraud and counterfeiting in domains such as supply chain management, DeFi, humanitarian aid and philanthropy.

"We bring in the transparency of blockchains (…) The impressive researchers at Gartner define real-time visibility as the ability to provide commercial customers (and consumers) with real-time insights into their orders and shipments once they have left the supplier's warehouse. In the Transparent Path platform, those insights include location, temperature, humidity, light, shock over time. Real-time visibility lets you monitor all of your shipments across all modes and logistics partners. The real-time aspect of this monitoring allows for rapid decision-making and supply chain agility". (The Transparent Path, Website).

As these examples suggest, blockchain's transparency helps integrate state logic (accountability and public trust), market logic (efficiency and reduced costs), and community logic (collective oversight and ethical participation). It creates a space where all three logics can converge and contribute to the vision of a more transparent, effective and inclusive society (see other examples in Table 3).

In sum, the novelty of the blockchain technology and its groundbreaking affordances allow ventures to combine logics in unprecedented ways and overcome incompatibilities within and across domains of application, thus paving the way for new solutions to the cross-cutting institutional challenges of inequality, lack of responsibility, inefficiency and information access underlying the grand challenges of our time. As shown in the examples above, prospection operates within a transient space where future promises accumulate while awaiting actualization. However, an analysis of the ventures' projects reveals that many of the promised affordances remained far from realization. With limited evidence of technological readiness and adoption, ventures face significant challenges in bringing blockchain's envisioned societal affordances to fruition. To deal with the prospection-actualization gap, many ventures strategically enact reification practices, as explained in the following section.

4.4. Reification: bringing prospection to life through conditions of enactability

Despite scarce evidence of their projects' market readiness or adoption, many ventures showcased some type of evidence of practical usage for related digital artifacts like blockchain ledgers, software, platforms, and mobile applications. These were often described into detail in ventures' white papers and documented through mock-ups, simulation and presentation images and videos. At a close analysis of this evidence, however, most of the showcased artifacts turned out to be mocks and renderings (i.e., graphic design artifacts), and only rarely did the blockchain technologies mentioned exist in the real world. As a result, the construction of the B4G field oscillated between references to envisioned futures and present realities, fluctuating from vague to evocative and detailed portrayals. Examples 15 to 22 in Table 4 below show evidence of this phenomenon. By combining text, images and video representations, ventures brought into the present their vision of the future. This practice, which I refer to as reification, is a transient strategy leveraging tools such as mock-ups and video simulations to showcase blockchain's prospective affordances in the present and connect them to the cross-cutting institutional challenges of inequality, responsibility, efficiency and information access.

Table 4 illustrates how ventures used mock-ups, demos, and video simulations to portray the emerging field of B4G as a boundless, multi-purpose platform. These artifacts served as performative tools to demonstrate the effects of decentralization, immutability, and transparency, even before the technology was fully operational. Ventures sought to make prospective affordances appear already underway, presenting their future potential as tangible and credible. Three conditions of enactability -i.e., usability, interoperability, and scalability- played a crucial role in this process. These conditions do not embody the transformative vision of B4G themselves, but they make prospective affordances enactable by rendering imagined applications technically plausible, actionable, and accessible in the present. From such a perspective, achieving a blockchain-driven world of fairness, responsibility, efficiency, and platform governance relies on our ability to embrace decentralization, transparency, and immutability, but realizing this vision requires usable, interoperable, and scalable solutions starting from present conditions. As follows, I describe reification by focusing on these conditions of enactability, examining how they are evoked through mock-ups and simulations, how they demonstrate prospective affordances in action, and how they activate logic entanglements to mobilize attention around the B4G field.

4.4.1. Usability

Usability refers to the ease with which blockchain's prospective affordances can be grasped and effectively used by its intended users. Interestingly, most ventures in the database contrasted the limited evidence of their projects' real-world adoption by creating vivid simulations of real-world users' experiences with blockchain technology. For this purpose, ventures used white papers and most often presentation images and videos to show relatable people in the process of deploying (mock) blockchain applications in their daily lives. For instance, most presentations featured humans (i.e., real people or avatars) dealing with some well-defined problem which they solved thanks to blockchain technology. In urban environments like downtown offices, bustling streets, and industrial facilities, citizens, workers, and entrepreneurs encounter various challenges in their daily lives and work, from financial struggles to bureaucratic hurdles, which they address using blockchain technology. Characters like 'Bob' or 'Alice,' whether real or fictional, navigate through obstacles such as greedy middlemen, bureaucratic delays, and limited access to resources. They embark on quests and heroic journeys, stepping out of their comfort zones to embrace new technology and overcome systemic barriers. Table 4 below contains examples of how prospective affordances were brought to life in ventures' white papers, websites and presentation videos by simulating usage. Example 17 in table 5, for instance, refers to GrainChain, an application for managing the supply chain of grain (pre- and post-harvest processes) through a cloud-based, blockchain and IoT-enabled platform. The presentation video shows Bob experiencing bureaucracy and market inefficiencies regarding the grain supply chain. When meeting the life changing GrainChain application, Bob easily solves his problems ('with a click') and experiences satisfaction.

Similarly, ventures aiming at humanitarian aid or improved living conditions show how blockchain technology fulfils very different individual needs and experiences of everyday life. Amidst activities such as harvesting crops, working in urban offices, providing essential services, or caring for their homes and families, people engaged with blockchain applications are shown smiling, cheering, and embracing newfound joys in their lives. In Humaniq, for example (ex.14), despair and isolation of homelessness are replaced by the laughter and happiness of children accessing innovative forms of charity and financial support. Similarly, in Ampere Energy (ex. 16), access to blockchain-powered sustainable energy offers individuals sensory and immersive experiences of the environment, from standing in the rain to smelling the earth or walking barefoot.

4.4.2. Scalability

In addition to usability, ventures also simulated their ability to scale. Scalability emphasizes the capacity of blockchain solutions to grow from individual users, products, or applications to entire communities and systems worldwide. For example, ventures like Everledger suggest how blockchain applications could scale and interconnect dynamically. In the context of diamond supply chain traceability, Everledger's presentation video depicts how blocks and boxes dynamically form growing chains of numbers and binary code (Ex. 5). This process links transactions to chains, to dematerialized products (e.g., a diamond represented as a blockchain of transactions), and ultimately to multiple benefits and uses across different applications. Similarly, Vinchain highlights the ability to rapidly scale blockchain applications from localized contexts to global systems, leveraging the flexibility of platform models to achieve constant growth and expansion across time and space (Ex. 8).

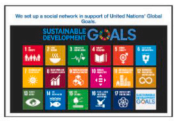
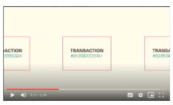
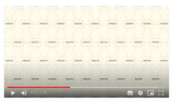
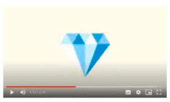
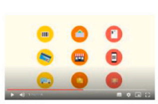
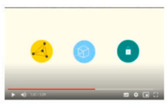
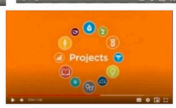
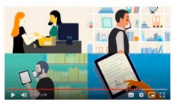
4.4.3. Interoperability

Interoperability refers to the ability of blockchain solutions to interact seamlessly with other systems, technologies, or platforms, forming dynamic assemblages that enable broader functionality and impact. Transparency-One uses universal logos to suggest how blockchain solutions across domains could connect and expand dynamically, fostering global networks (Ex. 7). Other ventures, like Wave and Safe Haven, illustrate interoperability by showcasing the seamless integration of blockchain solutions into diverse institutional and technological settings. Wave highlights blockchain's potential to create interoperable platforms for global trade, where systems, stakeholders, and transactions interact harmoniously (Ex. 9). Safe Haven showcases how blockchain could grow in purpose and scale through continuous expansion across urban and rural settings, connecting disparate systems and enabling new forms of collaboration and governance (Ex. 10).

Through these examples, ventures not only attempt to demonstrate the potential actualization of their promises, but also reinforce their vision of blockchain as a transformative technology. By activating blockchain's prospective affordances through mock-ups and simulations, ventures brought to life the potential of blockchain as a boundless and interconnected platform, driving systemic change even before full technological deployment. The contrast between the reality of the contexts of use and the mock applications that users are shown deploying in presentation videos is noteworthy. The example 15 in Table 4 refers to Beefledger, a supply chain application for the traceability of beef meat provenance. The presentation video starts by focusing on the materiality of the product (grazing cattle, raw meat), moves on to show its ability to scale and become embedded in other technologies, and ends with testimonials of actual use where real people access Beefledger's (mock) futuristic platform from their phones. Examples 18, 19, 20 in Table 4 provide further examples of how mock blockchain applications are shown at work. They suggest that the emergence of a new technological field is not just a process of problematizing important societal issues and prospecting technology-driven solutions, but also of showing promises at work, thereby breathing life into promises before the technology is ready for adoption.

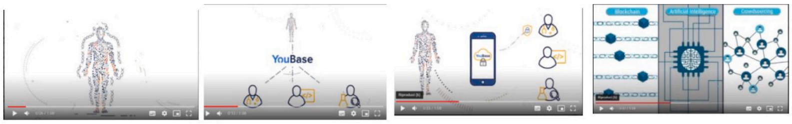
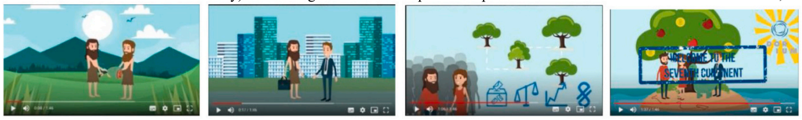
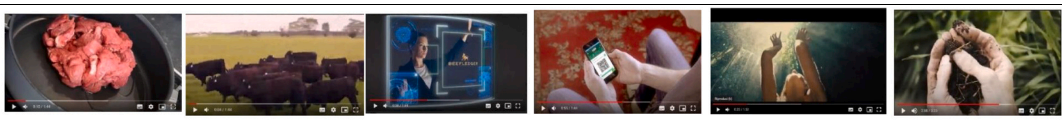
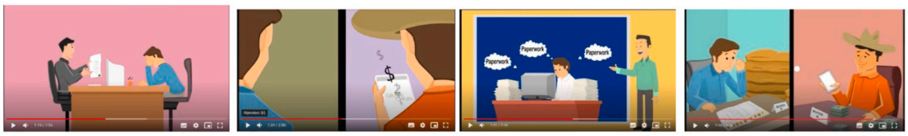
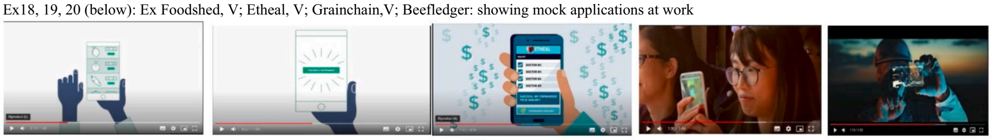
From an institutional work standpoint, reification implied activating prospective logic entanglements into the present to achieve mobilization. For instance, money symbols such as dollars, bitcoins, golden coins, banknotes, and cryptocurrencies are ambivalently used across projects to evoke cross-logic benefits for all involved parties, from market gains (e.g., profitability, gain, speculation) to revolutionizing the concept of state and generating social impact (i.e., save, give, donate, redistribute). Example 21 in Table 4 refers to Hive, the green bitcoin mining company. Hive's presentation shows how green energy is produced in Northern Scandinavia, less than 30 km from the Arctic circle, to be put at the service of people in need, innovative businesses and states around the globe. Hive's presentation video activates logic entanglements by making ambivalent references to money as opportunity to collectively save (state), donate to others and stay environmentally sustainable (community), and speculate on cryptocurrencies (market). Example 12 Dorium also shows this process. Dorium is a decentralized autonomous system controlled and managed only by the participants where anyone

Table 4
Reification: using performative artifacts and enactability conditions to render prospective affordances actionable (1st- and 2nd-order themes with exemplary excerpts).

2nd ORDER	1st ORDER THEMES AND EXEMPLARY EXCERPTS
Enacting blockchain prospective affordances into the present: showing scalable and interoperable solutions	-Using universal logos for blockchain artifacts and prospective affordances: heart for health, leaf for sustainability, crypto or fiat money for monetary transactions and rewards/tokenization; shields and locks for security, eye for privacy, people shaking hands for trust and consensus, thumbs-up and trend graph-charts for efficiency & optimization
	 Ex1: SureRemit, I(mage) representing affordances through universal logos; Ex2: WeTrust, I: representing domain-specific and universal affordances through universal logos Ex3: Verify-I; I: people shaking hand; transaction occurring on the blockchain Ex4: UnitedNations; I: bringing sustainable goals together through universal affordances   
	-Interconnecting universal logos to show blockchain at work: blocks and boxes dynamically interconnect in rapidly growing chains of numbers and/or binary code, Ex5: Everledger, V(ideo): blockchain application to diamond supply chain traceability: from transactions to chains, to dematerialized products (diamond as blockchain of transactions), to multiple benefits (universal logos) and multiple uses (different applications across logics):       Ex6: Chemonics, V: bringing affordances together through universal logos  
	Envisioning blockchain platforms as entanglements of digital artifacts, logos, persons and material objects Ex7: Transparency-One, V: connecting universal logos and exploiting them through platformization Ex 8 Vinchain V, 9; Wave, I; 10: Safe Haven: achieving growth in purpose and scale through the platform model; constant change & expansion across time and space; fast-forwarding the development of the urban and the rural through platformization;     

(continued on next page)

Table 4 (*continued*)

Enacting blockchain prospective affordances into the present: showing scalable and interoperable solutions (continues)	Ex11: YouBase,V: using integrated technologies to create multi-purpose platform infrastructures  -- -- - Ex12: Dorium, V: revolutionizing ways of doing business & trade across time and space, Dorium platform as a set of interconnected goals and initiatives (multiplying trees for increased environmental sustainability) and scaling benefits that shape a new space in contrast with established institutions -i.e., "Seventh Continent"  Ex13: Akoin, V: Stellar network, atomic swap to empower the world: Starting in Kenia, planning to expand rapidly throughout the world to provide a platform connecting the rural, the metropolis, and project them into the future (see reference to Black panther movie) 
Enacting blockchain prospective affordances into the present: showing usability	-Representing use, contextualizing applications in users' lives and expressing user satisfaction; physically experiencing blockchains in the real world; showing mock applications at work  Ex 14: Humaniq, V: putting to the fore people's differentiated experiences and showing how they can solve them Showing people benefiting of the product/solution; Reporting individual experiences: local populations and communities are given voice and expressive instruments (i.e., camera) to report their individual dramas. Ex15: Beefledger, V (below, left): Blockchain application for beef provenance traceability; connecting the materiality of the product with that of the digital application, and projecting the two into the future (end-to-end visibility of information on virtual reality screen) and activating them into the present (showing people benefiting and enjoying the Beefledger (mock) application) Ex16 (below right): Ampere Energy, V: experiencing the world of blockchain-provided sustainable energy;
	 Ex17: (below) GrainChain, V: solving market inefficiencies and bringing satisfaction to people's lives (Bob experiencing bureaucracy in grain supply chain transactions) 
Putting mock-ups, demos and simulations at work	Ex18, 19, 20 (below): Ex Foodshed, V; Etheal, V; Grainchain,V; Beefledger: showing mock applications at work 
Activating logic entanglements to mobilize action	- Mobilizing resources and attention by activating logic entanglements:  Ex21 (left): Dorium, V: reconciling market and community logics in Dorium's platformed 'seventh' continent' -- Showing disruption taking place; using universal symbols (i.e., money) in ambivalent ways to reconcile market & community logics and show growth & expansion:  Ex22: (left) Hive, V: ambivalent references to money as opportunity to collectively save (state), donate (community) and speculate (market) Ex23 (left): Golem, V: disrupting the world through smart computing; merging old logics to create a new unitary vision for change
LEGEND: I= image; V=video	

LEGEND: I = image; V = video.

who solves a social problem or helps others to do so receives digital value tokens in reward. While Dorium strongly criticizes the utilitarian model of economic development, it also takes distance from the purely communitarian model and proposes the Dorium platform as an alternative space of radical change called the 'seventh continent'. Table 4 provides further examples of the institutional work made possible by reification. By framing blockchain's affordances as universal solutions, ventures aim at weaving together institutional logics and societal aspirations in order to encourage general mobilization around the emerging B4G field. Recurrent phrases such as "invest now", "join us", "be part of the revolution", "find out more about us" or "learn how you can get it (the application) now" showed reification as instrumental in bringing prospective affordances closer to actualization, by mobilizing attention and involvement, and providing momentum for institutional change:

> *"If all these elements come together, markets, financial resources, distributed ledgers, peer-to-peer sharing and computing power, we believe that a better humanitarian system will prevail ultimately improving the lives of people affected by crises around the world. This future is not only possible. It is necessary and by working together we can make it a reality. Join us on this journey. (StartNeTwork, VideoSpeechTranscript).*

"A digital identity system needs more than just technical standards. We often hear that the internet is a product of standards, and while that's true, it also only exists because people strung cable, wrote code, created rules, built organizations, and formed alliances. SSI has similar needs and meeting them won't happen just because we define nice protocols and write some open source code (…)"(Soverin,WP).

In sum, prospection and reification were crucial transient practices through which the field of B4G emerged. Ventures not only promised to bring massive social change thanks to blockchain's decentralization, immutability and transparency, but also conveyed blockchain's ability to perform these affordances in the present in practical, scalable, and user-friendly ways. Together, these practices performe desired futures in the present, creating as-if realities affording momentum for institutional change.

5. Discussion

This study explores the social construction of the emerging field of blockchain for good (B4G), demonstrating how blockchain ventures leverage the technology's prospective affordances to perform institutional work that bridges and entangles market, state, and community logics, aiming to address some of the most pressing challenges of our time. By conceptualizing the interconnected practices of problematization, prospection, and reification, this study illuminates how actors navigate the provisional and pluralistic emergence of technological fields. It extends existing research on technology and institutional work by explicating how technological affordances interact with institutional logics in the formative stages of field development. These contributions are elaborated as follows.

5.1. Contributions to research on emerging technological fields: unpacking affordance-driven institutional work

First, this study bridges perspectives on field emergence by demonstrating how societal challenges and technological opportunities jointly drive the formation of issue fields (Hoffman, 1999; O'Sullivan & O'Dwyer, 2015; Zietsma et al., 2017). Prior research has shown that issue fields can arise from the acknowledgment of pressing global issues, such as poverty, inequality, or environmental crises (Hoffman, 1999; Lawrence, 2017), or from technological breakthroughs, such as the emergence of the internet (Pärna, 2010), home computers (Furnari, 2014), biotechnology (Powell & Sandholtz, 2012), or geoengineering (Augustine et al., 2019). This study's findings reveal that these drivers are not independent; instead, societal challenges and technological affordances intersect, shaping collective imaginaries and enabling technological field formation. This evidence is ever more relevant as emerging technologies promise to contribute to solving the grand challenges of our times, from blockchain addressing inequality and power centralization, to AI revolutionizing healthcare and optimizing resources, renewable energy technologies driving sustainable transitions, and biotechnology curing genetic diseases and ensuring food security.

Second, the study adds to the literature emphasizing the centrality of future-oriented visions in field emergence (Augustine et al., 2019; Barrett et al., 2013; Garud et al., 2019; Grodal & Granqvist, 2014). Imagined futures are central to the early stages of technological fields' development because they compensate for the absence of widespread adoption or fully developed applications, mobilizing resources, attracting attention, and providing sources of legitimation (Augustine et al., 2019; Garud et al., 2019). This study extends these arguments by showing that these visions are inherently shaped by institutional pluralism. Specifically, blockchain ventures navigate tensions between market, state, and community logics to articulate utopian visions of technological progress. From a market perspective, blockchain embodies cyberlibertarian ideals of decentralization and individual freedom; State logics frame it as a way to achieve sovereignty and accountability in the public sphere, while community logics envision blockchain as a tool for equality and collective responsibility (Corballis & Soar, 2022; Ungureanu, 2025a). By engaging in institutional work, ventures align these diverse logics to build momentum for field creation. While several studies have already suggested that issue fields emerge at the intersection of multiple and often conflicting institutional logics (Hoffman, 1999; O'Sullivan & O'Dwyer, 2015; Wry et al., 2014; Zietsma et al., 2017), the distinct contribution of this study lies in unpacking the role of technology in institutional pluralism.

Third, the study's findings highlight the pivotal role of technological affordances in mediating these tensions and enabling institutional change. The institutional literature has a longstanding tradition of documenting tensions and incompatibilities between multiple institutional logics, and the difficulties faced by those attempting to legitimate new institutional fields rising at the intersection of multiple logics, such as social entrepreneurship (Pache & Santos, 2010), corporate sustainability (Hoffman, 1999; Lucas et al., 2022), impact investing (Hinings et al., 2017), nanotechnology (Wry et al., 2014) or medical education (Dunn & Jones, 2010). By focusing on the emergence of new digital technologies, the study contributes to this literature by suggesting that, when embedded in a technology's sociomaterial affordances, multiple institutional logics may also constitute opportunities for envisioning desirable far-away futures, while materializing their potential in the present.

Importantly, the findings in this study underscore the mechanisms of institutional work through which imagined technological futures become as-if realities, namely problematization, prospection and reification. In line with prior studies on new field emerge (Furnari, 2014; Hoffman, 1999), this study confirms the role of problematization as a foundational practice, where ventures position blockchain as a universal solution to institutional challenges for instance inequality, inefficiency, lack of responsibility, and limited information access, amidst collective narratives of urgency and innovation (Hoffman, 1999; Wry et al., 2014). However, this study extends existing literature by demonstrating that problematization alone is insufficient to explain how new technological fields become as-if realities. Prospection, by leveraging potential future outcomes of a technology, enables ventures to envision the transformative potential of blockchain, creating spaces for experimentation and collective action. Reification, in turn, renders these futures tangible through performative practices, such as mock-ups and simulations, this way mobilizing resources and lending credibility to ventures' solutions regardless of their actual state of development.

By uncovering these processes, the study contributes to the literature on logic pluralism and institutional work in emerging fields (Gawer & Phillips, 2013; Jancsary et al., 2017; Kraatz & Block, 2017; O'Sullivan & O'Dwyer, 2015; Thornton et al., 2012). While prior research has documented the challenges of aligning multiple logics in nascent fields (Purdy & Gray, 2009; Wry et al., 2014), this study reveals how technological affordances offer a pathway to contain these tensions, via logic entanglements and their social mobilization. By logic entanglements this study referred to loose and temporary arrangements of multiple logics and technological affordances. Prospective affordances, in particular, allow ventures to align disparate logics and articulate credible visions of progress. However, as prospection is inherently transient, reification becomes critical in sustaining momentum and creating a temporary space between prospection and actualization (Ungureanu, 2023). The interplay between prospection and reification not only shapes how actors envision the potential of new technologies but also influences the institutional arrangements that emerge around them. In line with studies such as Gray et al. (2015) and Thornton and Ocasio (2008), I define entanglements as loose and temporary arrangements that can result in various structural configurations of institutional logics such as juxtaposition, domination, separation, merge or bricolage, according to context of enactment. From such standpoint, even if imagined futures appear conflict-free, conflict or contradiction are often around the corner (Nisbet, 2017). Via entanglement, the diverse assumptions underlying technological utopias can lead to paradoxes, tensions, or even collective delusions which can rapidly reconfigure logic arrangements, even to undermine a field's development (Grodal & Granqvist, 2014). While prospective affordances may help mitigate institutional tensions in very initial stages, these may surface under new forms as the field matures and provisional institutional arrangements are further put to societal tests. This is in line with studies seeing reification as an open-ended process (Ungureanu, 2023; Ungureanu et al., 2019). Accordingly, as entanglements become mobilized, promises may take a life of their own in the collective imagination, continuing to morph in search for a place in the existing social order and becoming time after time, "multiple things to multiple people" (Kraatz & Block, 2008: 244). The term entanglement thus captures both the diversity of configurations underlying the promises of new technological fields, and their dynamic nature. Future studies could investigate how fields change as logic entanglements are mobilized and promises draw closer to actualization.

5.2. Contributions to affordance theory: theorizing prospective affordances and enactability conditions of emerging technologies

The study also calls for renewed attention to the material aspects of institutions, as well as to complementarities between institutional and affordance theories. Institutional theory has long recognized that institutional logics encompass both symbolic systems of meaning and their material instantiations (Thornton & Ocasio, 2008), yet much of the research has disproportionately focused on discourse and practices rather than the sociomaterial dimensions of technology (Cloutier & Langley, 2013; Ocasio et al., 2017; Thornton et al., 2012). This study joins an increasing number of studies calling for renewed attention to the role of technological affordances in the micro-foundations of institutions (Berente & Seidel, 2022; Faik et al., 2020; Gawer & Phillips, 2013; Lounsbury et al., 2021; Ocasio et al., 2017). To this purpose, the study contributes to clarifying the role of technological affordances in institutional work leading to field creation.

While existing studies have often referred to affordances as carriers of institutional logics (Barrett et al., 2013; Dahabiyeh & Constantinides, 2022; Hultin & Mähring, 2014), this work documents a recursive process whereby technological affordances drive institutional work at the boundaries of multiple institutional logics, and become shaped by them in the process (Essén & Värlander, 2019). However, differently from previous studies having focused on existing technologies and affordances resulting from use, the focus here is on emerging technology, and the proposed concepts of prospective affordances and enactability conditions. Such a distinction provides new opportunities for affordance theory to engage with the unique challenges of emerging technologies.

This study brought evidence that blockchain's prospective affordances of decentralization, transparency, and immutability, enable ventures to challenge the status quo and propose new and provisional institutional arrangements. Yet, conditions of enactability such as usability, scalability, and interoperability were key to bringing these affordances to life, rendering future-oriented promises tangible and credible, and mobilizing resources for the nascent technological field. These are enactability conditions in the sense that they do not embody a transformative vision of the future but are essential for making that vision actionable and accessible in the present. From such standpoint, prospective affordances and enactability conditions are complementary, yet distinct phenomena.

Moreover, this study underscores the need to integrate affordance theory with sociomaterial perspectives in institutional research, particularly for emerging technologies characterized by complex assemblages of material, cultural, and institutional elements (Berente & Seidel, 2022; Essén & Värlander, 2019; Faik et al., 2020; Hultin & Mähring, 2014; Oborn et al., 2021). Blockchain, for instance, combines technical artifacts such as algorithms and cryptographic protocols with broader societal discourses of progress, equality, and efficiency. Central to this process is the creation of as-if realities which enact future visions in the present with constitutive force. By leveraging mock-ups, presentations, and simulations, ventures turn abstract possibilities into tangible and persuasive narratives, energizing attention and resources even before full-scale applications exist. Through their materiality, mock-ups, demos or videos invoke facticity, which, in conjunction with prospective discourse, allows actors to be persuasive even while providing incomplete or no factual grounds for their claims (Hultin & Mähring, 2014). This way, emerging technologies can acquire a reality-based strength well before products and applications mature and materialize (Boxenbaum et al., 2018).

In sum, this work argues for the inclusion of prospective affordances and enactability conditions in affordance research, particularly for emerging technologies like AI and blockchain, which embody both actual and prospective value by operating within the transient space between fantasy and reality.

5.3. Limitations, conclusions and future research directions

This study enhances understanding of the early stages of new technological field emergence triggered by disruptive innovations such as blockchain. By investigating the interplay between technological affordances, institutional logics, and grand societal challenges, this work contributes a more integrated perspective on how new fields emerge. The findings also carry broader implications for understanding the role of digital technologies in driving societal change. By illustrating how blockchain ventures articulate and enact visions of B4G, this study highlights the transformative potential of emerging technologies in addressing grand societal challenges. However, it also underscores the inherent tensions and uncertainties associated with future-oriented promises, particularly in fields where technical realization lags behind social aspirations. Evidence in this study suggests that among the 371 ventures involved in the construction of B4G, only very few displayed evidence of promise actualization in the short or medium term. Given their reality-making effects, policymakers and practitioners must navigate these tensions carefully, balancing the need for future-oriented narratives with accountability for tangible outcomes.

This study has limitations, including reliance on secondary data, which prevents direct inquiry into blockchain ventures' intentions and understandings behind their institutional work strategies. Second, while this study documents the emergence of the B4G field as an issue field shaped by pioneering blockchain entrepreneurs, the literature suggests that other actors such as users, investors, media, technology experts, and gurus may also play significant roles in the social construction of such fields, especially as fields evolve and become more structured (Zietsma et al., 2017). Future research could examine how these actors contribute to the institutional work here documented. Third, while this work focuses on prospective affordances, it does not intend to discount in any way the importance of affordances-in-use, thus the translation and transformation of emerging blockchain applications once they enter users' daily lives. Future research could investigate how prospective affordances influence patterns of use as blockchain technologies are adopted. To this regard, Augustine et al. (2019) suggest that as-if realities often generate over-excitement and adoption willingness, but Grodal and O'Mahony (2017) caution that unmet expectations can result in disillusionment, reduced investments, and even disinvestment. Exploring the interplay between prospection, actualization, and use could help reconcile these contrasting outcomes. Finally, the grounded model presented here offers a framework for studying other emerging technological fields, such as AI, the metaverse, or quantum computing. These fields similarly rely on prospective affordances to construct as-if realities that mobilize resources and align stakeholders around shared visions. Future research could explore how these practices evolve over time, particularly as technologies move from emergence to broader adoption.

CRediT authorship contribution statement

Paula Ungureanu: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

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Data availability

Data will be made available on request.

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