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Co-constructing cooperative value ecosystems: A critical realist perspective

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Abstract

This study focuses on digital platform cooperatives (DPCs) and investigates how social value is created within platform cooperativism for fostering a more equitable and inclusive digital landscape. We explore and theorise the outcomes of social value creation by DPCs and identify the generative mechanisms that drive their emergence. We do this by adopting a Critical Realism philosophical stance, in combination with Grounded Theory techniques based on the Straussian version of coding. Our data is drawn from 36 interviews with DPC (co-)founders, members, and experts, alongside an array of documentary data from DPCs across 12 European countries. Our analysis reveals three outcomes of social value creation by DPCs: strengthening community capacities, federating cooperative ventures, and fostering practices for narrative co-creation. Additionally, we identify two generative mechanisms with enduring properties and explanatory power: collective identity and empowerment, and government-community symbiosis. These mechanisms are identified through retroductive theorising, offering plausible explanations for the outcomes

of social value creation, situated within relevant contextual conditions, such as grassroots mobilisation and advocacy, institutional commitment and policy support, and legislative frameworks for cooperative integration. This study contributes to the understanding of social value creation in platform cooperativism as an endeavour to co-construct a cooperative value ecosystem, providing valuable insights for both theory and practice.

KEYWORDS
critical realism, grounded theory, platform cooperatives, platform cooperativism, social value, value creation

1 | INTRODUCTION

The expansion of digital platforms has instigated a comprehensive reassessment of value creation within the field of Information Systems (IS). This reassessment is marked by the rise of platform cooperatives (co-ops) within the platform economy, as delineated by Constantinides et al. (2018). Platform cooperativism offers a novel paradigm for digital engagement, which transcends the profit-centric focus of their corporate counterparts. The prevailing corporate models, deeply entrenched in the neoliberal-capitalistic fabric of the sharing (Sutherland & Jarrahi, 2018), gig (Huang et al., 2020; Liang et al., 2022), and metaverse economies (Xi et al., 2022), prioritise revenue over communal and societal welfare. Platform co-ops, in contrast, present an ethos of social mission (Logue & Grimes, 2022), where technological architectures and governance standards guide loosely coupled interactions of network users towards the remediation of social problems.

For instance, Fairmondo operates as an online marketplace, analogous to eBay or Amazon, but with a focus on fair and sustainable goods. It is dedicated to maintaining transparency in business processes, decisions, and finances, ensuring fair working conditions, and upholding strict guidelines against the sale of environmentally harmful products, such as those produced under unjust working conditions or which breach their ethical standards (Novković & Šimleša, 2023; Papadimitropoulos, 2021; Scholz, 2018). In this context, platform co-ops aim to cultivate transformative social change by creating a People's Internet (Sandoval, 2020) and to embrace democratic governance and collective ownership (Scholz, 2014, 2016; Scholz & Schneider, 2016), namely to create social value. Social value as such refers to benefits that extend beyond financial gains, encompassing enhancements often in community welfare, social cohesion, equity, and environmental sustainability.

In exploring social value creation, platform co-ops are situated as a critical response to the pursuit of wealth that overshadows broader societal needs, which, for example, champions the betterment of health, education, and equitable opportunities for all (Chamakiotis et al., 2021; Kroeger & Weber, 2014; Petrakaki et al., 2021). Unlike corporate platforms whose creation of social value is typically secondary to their profit motives and achieved through peripheral activities like corporate social responsibility initiatives (Etter et al., 2019; Nadeem & Salo, 2023), platform co-ops are positioned as the primary architects of social value which is embedded into their core operations. Value per se as such is intrinsically linked to the welfare of the community.

This study is motivated by the fundamental distinction between corporate and cooperative models, which offers a blueprint for a platform economy that is equitable, participatory, and rooted in collective well-being (Kölbel et al., 2023). By 'cloning' the technological core of corporate platforms within a cooperative ownership model, platform co-ops challenge the status quo by prioritising fair work, social equity, and collective well-being (Davies

et al., 2023; Scholz, 2014). Their potential as a more ethical alternative to the dominant platform economy warrants thorough examination to inform practice and policy (Scholz, 2016). Thus, investigating social value within platform co-ops is both an academic and practical pursuit, aiming to provide actionable insights for a more inclusive and democratically oriented platform economy.

Previous research has highlighted the importance of examining social value creation as a socio-technical phenomenon that benefits the collective and common good rather than individuals (Akman et al., 2018; Barrett et al., 2016; Goh et al., 2016; Zhang, Li, & Wang, 2021). However, despite this recognition, current research has yet to uncover the specific processes and mechanisms by which social value is created; the potential for platform co-ops to offer a viable alternative to economy remains underexplored. This is critical because identifying these mechanisms could provide valuable insights into how platform co-ops can be structured to maximise social value, offering significant benefits to communities and informing policy-making. Therefore, this study seeks to address the question: *What drives social value creation in platform cooperativism?* Our analytical focus is precisely on digital platform co-ops (DPCs) that highlight the digital and online informational nature and particularly forge open value co-creation strategic alliances (Davies et al., 2023; Zhang, Chen, et al., 2021), distinguishing them from traditional cooperatives that may utilise physical platforms or networks.

To address the research question, this study adopts Critical Realism (Bhaskar, 2010; Fletcher, 2017; Mingers et al., 2013) as our philosophical foundation. We first unravel the concept of social value creation by exploring events and practices that represent and constitute various dimensions of multifaceted and tangible value and their outcomes of value creation. We then work backward to reveal the underlying structures and powers constituting what are ontologically termed generative mechanisms (Henfridsson & Bygstad, 2013), as well as the contextual conditions in which these mechanisms operate (Pawson & Tilley, 2004). This philosophy allows researchers to consider not just the observable phenomena but also the theoretical constructs and deeper mechanisms that explain why things occur as they do (Mingers & Standing, 2017).

This is achieved through retroductive theorising (Belfrage & Hauf, 2017; Meyer & Lunnay, 2013), central to Critical Realism. Retroduction helps us identify plausible explanations for the outcomes of social value creation and specific observable events and practices, thereby highlighting the mechanisms with enduring properties that enable such outcomes (Collier, 1994; Fletcher, 2017; Mingers & Standing, 2017). We combine Critical Realism with the Straussian version of Grounded Theory (Strauss & Corbin, 1997) to code and analyse our empirical material. Our data comprises semi-structured interviews with 36 informants from DPCs across 12 European countries, targeting (co-) founders, employees, and experts directly or indirectly involved in developing their DPCs as our research participants. The empirical material is further enriched with documentary data, including in-house reports, recommended articles circulated by the informants, and web content on the DPCs' websites. Combining critical realism with Grounded Theory enables us to ground our findings in empirical data while also seeking deeper, often unobservable, generative mechanisms. This approach enhances theoretical depth by marrying data-driven insights with a philosophical examination of the underlying structures that govern social phenomena (Oliver, 2012).

The rest of the paper is structured as follows: Section 2 reviews literature on forms of social value creation by both corporate and cooperative platforms as a starting point to gain theoretical sensitivity and inform our understanding of the phenomenon. Section 3 introduces Critical Realism in more detail and explains how this paradigm frames our study. Section 4 details our methodology, followed by Section 5, which presents and discusses our findings about social value creation outcomes, generative mechanisms, and contextual conditions. The final section outlines the study's theoretical implications, methodological implications, practical implications, and limitations, and suggests directions for future work.

2 | SOCIAL VALUE CREATION BY DIGITAL PLATFORMS

This section delves into the creation of social value within digital platforms. It begins with an exploration of economic value before transitioning to the significance of non-economic value. Understanding how both types of value are

formed on corporate platforms provides crucial context for appreciating the unique importance of social value for DPCs. Through this analysis, we aim to unravel the intricate ways in which digital platforms can foster a broader spectrum of value, encompassing both financial and societal dimensions.

2.1 | Balancing economic and social values in platform capitalism

Corporate platforms are often implicated in undermining the social contract between workers and businesses, exacerbating systemic inequalities, and promoting surveillance capitalism (Borkin, 2019; Zuboff, 2019). Unlike traditional capitalism, which derives value from the production of goods or services, platform capitalism gains its value through the organisation of production processes (Davies et al., 2023). Despite their economic orientations, corporate platforms also serve as complex ecosystems where business and market-oriented values are pursued through diverse activities and interactions with a wide range of stakeholders, adapting to the digital economy's evolving nuances (Kumar & Reinartz, 2016). Suseno et al. (2018) explore how these platforms blend emotional, experimental, epistemic, and functional values through dynamic stakeholder interactions, although these interactions may sometimes inadvertently sideline the broader socio-technical landscape that influences change.

The significance of a holistic platform ecosystem is highlighted in platform research, which emphasises the roles of social enterprises and civil society organisations in shaping social value creation dynamics (Lan et al., 2017; Sorensen & Drennan, 2017; Suseno et al., 2018). Within this ecosystem, the private sector often emerges as a leader in technological problem solving, supported by the strategic and financial backing of state or governmental bodies (Kroeger & Weber, 2014). This interplay between socio-technical practices and public interests marks the intertwined nature of social value creation with societal norms, welfare, and altruistic ideals (Kenter et al., 2015).

A nuanced exploration into stakeholder interactions within the context of digital platforms underscores the intricate balance between economic aspirations and social considerations. Corporate platforms, specifically, navigate this equilibrium by aligning their economic objectives—like profit maximisation, operational efficiency, and market leadership—with the imperative to address societal needs and adapt to the changing social and technical landscapes that impact their operations (Kapoor et al., 2021). This approach to value creation transcends mere financial gains, embracing a broader concept of social value. Such value is conceptualised as a shared public benefit (Benington & Moore, 2010; Frischmann, 2012), reflecting the collective advantages that digital platforms provide not only to their users and owners but to the wider community. For example, ride-sharing platforms can reduce urban congestion and pollution, benefiting the broader public. Similarly, educational platforms offering free courses can enhance community knowledge and skills. These practices demonstrate the mutual benefits and values digital platforms bring to the public (Hajiheydari & Delgosha, 2023).

Research has explored the underlying mechanisms of value creation in corporate platforms, identifying factors such as trust, responsible data usage, and user engagement, along with traditional economies of scale (Trabucchi et al., 2022). Sandoval (2020) suggests that a much-needed alternative to the corporate sharing economy—as Scholz (2017) terms it, the "genuine sharing economy" based on the cooperative model—has the potential to create shared value impacting local communities and grassroots organisations positively (p.42).

Furthermore, governing platform ecosystems is pivotal in fostering innovation and coordination among various sectors. A central element to this governance is the concept of 'generativity tension', described by Cennamo and Santaló (2019), which refers to the ecosystems' ability to balance openness and creativity with the need for some governance to ensure all contributions are synergistic. This balance is crucial for the ecosystems' capacity to adapt, evolve, and generate valuable new solutions that are not just economically beneficial but also address ethical, social, and practical considerations. Bryson et al. (2014) further elaborate on this by discussing the multifaceted nature of value in these ecosystems, highlighting how they promote fairness, democracy, egalitarianism, and contribute to outcomes like enhanced security and resilience.

Meijer and Boon (2021) emphasise that social value creation extends beyond government and corporate realms, highlighting the critical roles of local institutions and civil society. As Pitelis (2022) observes, the successful design and implementation of more public-driven digital platforms, such as community-oriented food delivery or ridesharing platforms, can be largely credited to the collective efforts of community associations, grassroots organisations, and NGOs. However, this approach may not be applicable to large economic sectors such as transportation, education, R&D, and high-tech industries, which "act as lead investors and catalysts that spark the network to act and spread knowledge" (Mazzucato, 2015, p. 27). This mode of operation starkly differs from the methods adopted by multinational or supranational market economies, which traditionally hinge on capitalist market structures.

The relationship between innovation and governance suggests, "innovation needs bureaucracy" (Kattel et al., 2022), where the state plays a crucial role in developing the knowledge economy and shaping the socio-technical environment (Kattel and Mazzucato, 2018). In this economy, the creation of social value becomes an extension of state power and bureaucracy (Zhang, Li, & Wang, 2021). Tackling societal challenges necessitates a synergy between effective state governance and the cultivation of collaborative public spaces, where communities can co-innovate. State-steered processes, legitimised by political authority and enriched by civil society, pave the way for progressive transformations (Zhang, Li, & Wang, 2021). Furthermore, collective efforts and digital activism serve as catalysts for reforming platform ecosystems. They advocate for a comprehensive model that espouses shared accountability and collaborative creation, fostering an environment where innovation is not just economically driven but is also ethically, socially, and practically sustainable (Chamakiotis et al., 2021). This perspective aligns with earlier discussions on the governance of platform ecosystems, where the importance of managing 'generativity tension' for adaptive, resilient, and socially valuable innovation is highlighted (Bryson et al., 2014; Cennamo & Santaló, 2019).

2.2 | Platform cooperatives, democratic governance, and community-centric value creation

The discourse around platform cooperativism shifts the focus towards the potential of community-based initiatives (van Doorn, 2017a). This alternative model, championed by scholars, activists, developers, and labour organisers, is grounded in the pursuit of social values, including data commons, open technologies, equity, inclusion, gender diversity, and community engagement (Grohmann, 2023; Scholz & Calzada, 2021). These values are intrinsic to the operation and ethos of DPCs, which are characterised by their commitment to a more equitable distribution of power between the platform and its various contributors and partners.

More specifically, these cooperatives employ governance mechanisms that emphasise social integration, worker rights protection, and the dismantling of systemic biases such as sexism, ableism, and racism entrenched in platform designs (Costanza-Chock, 2020), and promoting participatory engagement (Nicoli & Paltrinieri, 2019). This proactive stance against biases and oppression (Scholz, 2023), along with the erasure of the worker-owner divide (Davies et al., 2023), highlights the DPCs' role in not just creating economic value but nurturing a socially responsible and inclusive digital ecosystem. Furthermore, DPCs extend their vision to large-scale social change, aiming to revolutionise how the economy functions and how wealth is distributed. For instance, initiatives like the non-profit WebHosting Co-operative,[1] articulate their commitment to humanity's good, underpinning their business practices with principles of democratic governance and improved working conditions. This ambition highlights the cooperative movement's dedication to substantive social value creation beyond conventional business metrics, focusing on equitable growth and community empowerment.

In terms of democratic governance, DPCs distinguish themselves by anchoring their approach in a 'solidarity economy', one that emphasises the collective enhancement of community capabilities and equitable resource access, fostering a rich ecosystem for social value creation (Saner et al., 2019). The adherence to such a model showcases a

[1]WebHosting.coop. https://www.webhosting.coop/about-coop.

marked distinction from the competitive ethos of platform capitalism, promoting a form of value creation that prioritises collective well-being over individual gain. Yet, DPCs must cautiously navigate the entrepreneurial currents characteristic of the broader economic system to maintain their foundational principles of equity and shared benefit. Davies et al. (2023) highlight the inherent tensions between the common good and commercialization, democracy and market forces, and the delicate intersection of activism with enterprise. This is further complicated when DPCs uncritically adopt entrepreneurial discourse, risking a compromise of their social value objectives by aligning too closely with the very neoliberal paradigms they aim to subvert (Sandoval, 2020). van Doorn (2017b) warns DPCs against embracing an aspatial, one-size-fits-all techno-solutionism that could undermine the messier, yet more authentic, processes of democratic self-governance that are vital for responding to local, affective, and political infrastructures (van Doorn, 2017a). Here, the emphasis is on avoiding a disconnection from the very communities they intend to serve and the social values they seek to uphold.

Notably, DPCs consistently emphasise governance transparency. This principle is clearly illustrated through the example of Fairmondo and its adherence to 12 foundational fair principles drawn from the Universal Declaration of Human Rights (UN General Assembly 1948) (Muñoz & Cohen, 2018). Fairmondo's transparency model features sustainable business practices, equitable salary structures, participatory development, and a feedback system that catalyses public policy discussions—demonstrating a dedication to social value beyond mere financial indicators (Wegner et al., 2023). In contrast to the "black-boxed" strategies of many corporate platforms that conceal operational mechanisms (Zygmuntowski, 2018), Fairmondo and like-minded DPCs embrace an operational transparency that stands against the secretive and monopolistic practices leading to the formation of 'cloud empires' with little accountability (Bühler et al., 2023).

Lastly, DPCs are embedding the concept of 'digital commons'—such as publicly accessible data from the internet—within their structure, challenging the data monopolisation practices of corporate giants and promoting an ecosystem that aligns with democratic principles (Bühler et al., 2023; Papadimitropoulos, 2021). Scholz and Schneider (2016) assert that DPCs must adopt an 'open cooperativism' stance, grounded in the principles of commons-based peer production (Kostakis & Bauwens, 2017; Papadimitropoulos, 2021; van Doorn, 2017a), to withstand the competitive pressures of capitalism that thrive under closed copyright regimes. This paradigm shift is evident in the rise of data cooperatives and digital federations that embrace networked peer or co-production, a mode of operation that underlines dignity and bolsters collective agency across decentralised networks, fundamentally shaping a more equitable digital landscape (Labrecque, 2023; Scholz, 2014).

While previous studies have identified various forms of social value created by digital platforms, this study shifts to address how these values are specifically created within the cooperative model. Overall, the cooperative aspect emphasises the importance of democratic governance and community-centric practices, but it is crucial to uncover the mechanisms behind social value creation in platform co-ops to better comprehend how cooperatives foster a more equitable digital economy. This can offer transformative insights into the creation of social value that transcends traditional corporate practices.

The above multifaceted dimensions of social value on digital platforms are summarised in Table 1 and help establish the theoretical sensitivity and relevance of the study.

3 | CRITICAL REALIST FRAMING OF THE STUDY

In our study we are interested in exploring how social value creation may be achieved within the context of digital platform cooperativism. We therefore approach this through the research paradigm of Critical Realism, which allows to develop in-depth causal explanations of the outcome of specific socio-technical phenomena (Wynn Jr & Williams, 2012).

Critical realism views the social world as structured, differentiated, and dynamic, continuously understood through a process of knowing (Bhaskar, 2010). It seeks to unveil the generative mechanisms that provide a plausible

TABLE 1 Overview of social value forms in digital platforms.

Dimensions of social value	Forms of social value	Description
Democratic governance	Fair working conditions (Bauwens & Kostakis, 2014; Nicoli & Paltrinieri, 2019; Schor & Attwood-Charles, 2017)	Workers get a fair portion of economic gains, receive fair pay, and job stability, and have access to training and skill development.
	A sense of dignity (Scholz, 2014, 2016)	Acknowledging and valuing the contributions, skills, and autonomy of individuals collaborating within a decentralised, digital environment.
	Participatory design (Papadimitropoulos, 2021)	Participation enables workers and stakeholders to influence the platform's policies, features, and direction, ensuring it meets diverse needs instead of just catering to a few executives or investors.
	Inclusive decision-making (Davies et al., 2023; Scholz & Calzada, 2021)	Fostering an environment where decision-making is collaborative and reflects the collective wisdom and diverse perspectives of all stakeholders, thus ensuring that the governance of digital platforms is equitable and responsive to the needs of the community.
	Transparency and accountability (Burnicka & Zygmuntowski, 2019; Scholz & Schneider, 2016)	This fosters trust and long-term sustainability by adhering to principles of promoting transparency, ethical practices, performance monitoring and evaluation, and responsive feedback mechanisms.
	Addressing local and political infrastructures (van Doorn, 2017a)	Recognising the importance of adapting to and integrating with local, affective, and political infrastructures, ensuring that governance practices are responsive to the specific contexts and challenges of the communities involved.
Cooperative ecosystem dynamics	Collaborative innovation networks (Jacobides et al., 2018)	Encourages the formation of networks where innovation is collaboratively pursued, blending knowledge and resources across sectors to drive forward-thinking solutions and advancements.
	Integrative public-private partnerships (Pitelis, 2022)	Leverages synergies between public and private sectors within the ecosystem to address social and environmental challenges, enhancing the ecosystem's collective capacity for impactful action.
	Collective learning and knowledge exchange (Mazzucato, 2015)	Promotes an environment of continuous learning and knowledge sharing, facilitating the spread of innovative ideas and best practices throughout the ecosystem to foster collective growth and adaptability.
	Governance for collective well-being (Cennamo & Santaló, 2019)	Adopts governance models that prioritise the well-being of the entire ecosystem, ensuring decisions are made with an eye towards fairness, sustainability, and the long-term health of the cooperative network.
	Adaptive technological solutions (Kroeger & Weber, 2014)	Embraces technology as a tool for solving complex societal problems, ensuring that the ecosystem remains adaptable and responsive to the evolving needs of its stakeholders and the broader community.

(Continues)

TABLE 1 (Continued)

Dimensions of social value	Forms of social value	Description
	Greater generativity in ecosystem (Cennamo & Santaló, 2019)	The platform ecosystem's enhanced generativity is characterised by its ability to generate novel outputs through the unrestricted contributions of diverse and wide-ranging audiences.
Social solidarity mechanisms	Community capacity building (Matarrita-Cascante & Brennan, 2012; Saner et al., 2019; Vallas & Schor, 2020)	This process enhances a community's abilities, resources, and connections to tackle its needs and boost well-being, fostering collaboration and shared values.
	Equitable resource access (Iaione, 2016; Papadimitropoulos, 2021; Saner et al., 2019)	Public resources, including funding, infrastructure, training, and policies, help platform co-ops compete with corporate platforms and scale their operations.
	Digital activism and grassroots organising and mobilisation (Chamakiotis et al., 2021)	Leveraging the power of grassroots movements to organise and mobilise around shared goals, particularly those related to social justice and equity, thus reinforcing the cooperative spirit and collective action for change.
	Addressing systemic inequalities (Cutolo & Kenney, 2021)	Working actively to dismantle systemic inequalities and barriers that perpetuate exclusion and disparity, thereby fostering a more just and equitable society through the principles of solidarity and mutual support.
Digital commons and collaborative stewardship	Digital commons and open access (Papadimitropoulos, 2021; Scholz & Schneider, 2016)	Promoting the idea of digital commons, where data and digital resources are made freely available and accessible to all, fostering a culture of open knowledge and collaborative development.
	Commons-based peer production (Kostakis & Bauwens, 2017; Scholz & Schneider, 2016)	Encouraging collaborative creation and sharing of digital content and resources, leveraging the collective intelligence and creativity of the community to generate value that benefits all participants.
	Community-led innovation (Meijer & Boon, 2021; Pitelis, 2022)	Facilitating innovation that originates from within the community, addressing specific needs and challenges through collective action and shared expertise, thereby enhancing the social and economic well-being of the community.
	Protection of intellectual commons (van Doorn, 2017a)	Advocating for legal and ethical frameworks that protect the intellectual contributions of individuals and communities, ensuring that these contributions remain part of the public domain and are protected from privatisation or exploitation.

explanation for phenomena (Wynn Jr & Williams, 2012, p. 52), acknowledging their potential observability and the fallibility of scientific and perceptual understandings (Iannacci, 2018) due to "socially and historically conditioned" knowledge (Strong & Volkoff, 2010, p. 733). Whilst traditional critical realist studies trace practices over time to

establish causality (e.g. Henfridsson & Bygstad, 2013), our study adopts a systematic approach to identify practices that are "individually necessary and jointly sufficient" (p.3) for social value creation (Iannacci, 2018). Consequently, we interpret mechanisms as systems of interrelated components rather than temporal processes (Iannacci, 2018).

Before detailing the mechanisms and their identification, it is essential to understand how critical realism perceives reality. In this paradigm, reality is stratified into three domains: the *empirical*, involving direct experiences and observations; the *actual*, encompassing events that occur regardless of being observable; and the *real*, which includes underlying forces and mechanisms that cause events. These mechanisms are contextually conditioned and identified through retroduction, drawing on prior knowledge, theories, and empirical observations (Williams & Wynn Jr, 2018).

Retroduction identifies the mechanisms that can explain why a phenomenon occurs, and is characterised as a form of retrospective reasoning that leverages existing knowledge and theories to propose potential explanations for an observed phenomenon (Avgerou et al., 2019; Wynn Jr & Williams, 2012). This method involves an iterative comparison of possible explanations within the context in which the phenomenon is observed, eliminating those with insufficient explanatory power and favouring those with substantial explanatory capacity (Mukumbang et al., 2021). In essence, retroductive theorising facilitates a shift from observed events to deeper causal explanations, pinpointing generative mechanisms and their contextual conditions. According to their context-mechanism-outcome configuration in realist evaluation, Pawson and Tilley (2004) describe how specific contextual conditions work to trigger particular mechanisms, and how this combination generates various outcomes. In a word, these conditions are necessary to enable the activation of mechanisms, thus producing the empirical events in question (Wynn Jr & Williams, 2012), which may encompass a user's abilities, technological features, and elements of the environment, among others (Anderson & Robey, 2017). The core question of our inquiry is what must inherently be true and conditioned for an event to transpire in the way that it has.

4 | METHODOLOGY

In the conduct of this study, we engaged in qualitative semi-structured interviews underpinned by the critical realism paradigm, complemented by the Straussian version of Grounded Theory Method strategies. Specifically, we adhered to the systematic coding strategies of open coding, axial coding, and selective coding (Strauss & Corbin, 1997), which aligns with the critical realist tradition of recognising the stratified nature of reality (Wynn Jr & Williams, 2012). Incorporating critical realism's emphasis on underlying structures and mechanisms with grounded theory's rigorous, data-driven theory generation facilitates a nuanced and contextually rich exploration of social value creation in DPCs (Hoddy, 2019). This is because, whilst grounded theory typically does not engage with pre-existing theories (Fletcher, 2017), retroduction allows us to use observed events and practices to theorise about underlying structures and mechanisms and formulate explanations for the creation of social value (Oliver, 2012). In short, the combination of grounded theory and critical realism allows us to approach the data without having pre-conceived concepts but remaining open to what the data tells us. In what follows, we elaborate on data collection and analysis. We note that while these two phases took place in parallel, we describe them separately for clarity purposes.

4.1 | Data collection

We identified informants from a variety of growing and thriving DPCs across 12 European countries, spanning several industries, such as food, mobility, education, healthcare, creative industries, and tourism. We sampled informants based on the unique insights they could provide us with in terms of initiating and sustaining DPCs that create social value while challenging the mainstream corporate platform economy. We first identified key 'activists' in platform cooperativism who consistently participated in international and European symposiums on digital co-ops and

grassroots innovations, such as "Building the Cooperative Internet" organised by Platform Cooperativism Consortium.[2] We then classified our informants into two groups: (co-)founders, employees, and core members of DPCs, and experts representing grassroots associations and advocating for cooperativist movements. (Co-)founders and members provided valuable insights into the social values their platforms create, while experts focused on the 'big picture', discussing the socio-technical landscape of digital platform cooperativism, the social environment and conditions, as well as their experienced and perceived challenges and opportunities for social value creation.

Our overall approach followed the principles of theoretical sampling (Coyne, 1997; Glaser & Strauss, 1967; Hoddy, 2019; Timmermans & Tavory, 2012), which guided data collection based on evolving theoretical insights emerging from the data (where to sample next) and with the explicit view of maximising variance in our sample and increasing our ability to make comparisons (Burton-Jones & Volkoff, 2017). As a tangible example, during preliminary coding, we identified a gap in our understanding in terms of how social value creation practices are understood and framed by platform coops. We therefore sampled additional participants that could offer insights specifically towards bridging this gap and based on their characteristics, experiences, and the contextual environment of the case which, at that point, could help clarify, extend, and challenge our emerging coding.

We collected primary data through one-to-one semi-structured interviews with informants. Additionally, we analysed secondary data from the DPCs' websites and materials provided by interviewees, including recommended or authored articles, chapters, pamphlets, and policy briefings, for a comprehensive understanding. Details of the interviews are outlined in Tables A1 and A2. To preserve the anonymity of our informants, we have replaced all names with a number code (i.e., 'I-*n*', whereby I stands for Interviewee and *n* is the number we have assigned to them).

4.2 | Data analysis

Our data analysis follows both the scientific reasoning and tenets of critical realism for theorising and the Straussian version of grounded theory method for coding (Strauss & Corbin, 1997; Urquhart, 2022). In the initial stage of open coding, we engaged with the empirical domain, meticulously examining our qualitative data. Here, we dissected the transcripts line by line, identifying and labelling discrete occurrences and experiences without preconceived notions, thereby generating a broad range of concepts that represent social value creation events and practices. This inductive process allowed for the emergence of patterns and regularities directly from the data, while instances that deviated from these patterns—those that surprised or challenged initial interpretations—were addressed through abductive reasoning (Alvesson & Sköldberg, 2017; Timmermans & Tavory, 2022). This reasoning facilitated the formation of novel insights about the data, which expands our conceptual understanding and ensuring a richly textured interpretation of the empirical evidence.

Moving into the axial coding phase, our analysis transitioned into the actual domain, where we began organising the previously identified concepts into categories and subcategories. This process involved a detailed exploration of the relationships among concepts (social value creation events and practices), elucidating the connections and properties that defined and conveyed the outcomes of those events and practices. It was during this stage that the abductive reasoning became particularly instrumental, which enabled us to construct a coherent framework of categories that captured the complex dynamics within our data. As these categories crystallised, we employed retroductive reasoning to probe beneath the observed data to reveal the potential structures and processes that the categories implied. This analytical step ensured that our categories were not only descriptive but also explanatory, providing a deeper insight into the actual domain of our study's phenomena (Meyer & Lunnay, 2013).

The final stage was selective coding, where we concentrated on synthesising our categories to distil a core category. This core category embodied the central phenomenon of our research—social value creation on digital platform cooperativism, encapsulated the essence of the findings, and provided a focal point for further analysis. In the

[2]https://platform.coop/.

interplay between abduction and retroduction, we were attentive to the emergent nature of the core category, allowing it to be refined by the data while also theorising its broader implications. The construction of theoretical constructs, drawing upon the core category, was guided by a retroductive leap—deliberately seeking to identify the generative mechanisms within the real domain (Meyer & Lunnay, 2013). These mechanisms posited the deeper, causal aspects that underlay the phenomena observed, fulfilling the critical realist aim to not just describe but explain the social processes under investigation.

Throughout coding, we remained sensitive as to whether the evolving coding structure could address our research question, explain our observations and achieve theoretical saturation (Urquhart, 2022). This resulted in recruiting additional informants for interviews (cf., theoretical sampling, Section 4.1) who helped us bridge gaps in our understanding.

It is crucial to note that analysis was directed not at cataloguing an exhaustive inventory of potential mechanisms but rather at discerning those mechanisms that offered a plausible explanatory role for the phenomena at hand—what Williams and Karahanna (2013) conceptualise as the best explanations. This stance aligns with critical realism's advocacy for "philosophically acceptable explanations" (Wynn Jr & Williams, 2012, p. 52), which acknowledges the coexistence of multiple, potentially valid, explanatory frameworks. Consequently, our focus diverged from linear causality and instead concentrated on understanding the synergy of events that culminate in the observed phenomena. Through retroductive analysis, we sought to uncover the conditions under which varying configurations of events would lead to different outcomes in that social phenomena like social value creation do not occur in a vacuum but are the result of multiple, interrelated factors. This variance indicates how changing one or more conditions could change the outcome, embracing Iannacci (2018)'s difference-making approach to causation. Two worked examples of case vignettes are presented in Table A3.

Our analysis strategy, as depicted in Table 3, was iterative, integrating analytical moves such as data interrogation and category refinement with abduction and retroduction, challenging the superficial linearity suggested by tabular representations. Reflexivity, as Malterud (2001) terms the "knower's mirror", was indispensable in this process, enabling us to systematically scrutinise our biases and their impact on our interpretations—acknowledging that while biases can't be eliminated, they can be understood and accounted for. In practice, we probed beyond the current literature to uncover new dimensions of social value creation (Monteiro et al., 2022), engaged in critical internal dialogues to challenge rather than conform to consensus (Malterud, 2001), and reflected on our positionality as non-practitioner researchers within the context of platform cooperativism (Jimenez et al., 2022). This reflexivity was pivotal in ensuring our findings were not just data-driven but critically examined through our academic lens.

5 | FINDINGS

In this section, we present the outcomes of social value creation within the realm of platform cooperativism. Focusing not on an exhaustive list of observed events and practices but on three distilled categories, we present a cohesive narrative of these outcomes as embodiments of specific social values and introduce a core category that encapsulates the main theme of social value creation on DPC in this context. As illustrated in Table 2, these findings are situated in the actual domain, where retroduction has played a critical role in shaping the inclusion of theoretical constructs that articulate these outcomes. The section progresses to delineate the generative mechanisms derived from these constructs, alongside the contextual conditions that underpin their operation, offering a detailed account of how these mechanisms manifest within the cooperative setting.

5.1 | Outcomes of social value creation on digital platform cooperatives

Based on our analysis, we have identified three categories that encapsulate social value creation outcomes as embodiment of specific social values from our empirical data: Strengthening Community Capacities, Federating

TABLE 2 Data structure.

Representative extracts	Concepts (open coding)	Subcategories (axial coding)	Categories (axial coding)	Core category (selective coding)
"Our platform believes [in] more than fair prices; we're actively working to subsidise rent for our lower-income users. […] This is how we're putting our values into practice." (I-06)	Rent Subsidy Programmes	Community Economic Resilience Initiatives	Strengthening Community Capacities	Co-constructing Cooperative Value Ecosystems *(The core category is developed based on the analysis of the interrelationships between the three identified categories)*
"Our strength lies in collective bargaining. Through this, we've established some cost reduction policies that have significantly lowered operating expenses for all our members." (I-34)	Cost Reduction Policies			
"In some cases, the local administration contracts the service and reserves the car for specific hours, while in other cases, they offer public parking spaces for the cooperative's cars. The cooperative has worked with 14 villages, ranging from small villages with 200–300 people to towns with 50 000 people." (I-10)	Community Space Sharing			
"The synergy between us and public institutions has not just amplified our impact but also reinforced the digital infrastructure that sustains our services." (I-12)	Public-Private Collaboration	Public-Community Partnership Facilitation		
"… these incentives for signing a lease with our co-op? They're a game-changer. Members get perks like lower deposits or even a month free. It makes it easier for everyone to just dive in and commit." (I-07)	Lease Agreements and Incentives			
"These centres we're putting up? They're not your typical corporate labs. They're born from the grassroots, for the grassroots. It's where our co-op members get hands-on with tech and bring their ideas to life." (I-20)	Establishment of grassroots-oriented technology centres	Local Tech Empowerment Hubs		
"We're seeing amazing things happening since we started these courses. Our members are not only improving their own projects, but they're also bringing new ideas and energy to the entire platform. It's a ripple effect of skills and confidence."	Development of skill-building workshops and courses for DPC participants			
"We want to scale our business by building incubators in all voivodeships of Poland and […] a competent and technology centre for us. […] We have established cooperatives of professional developers, UX designers, and artists to reinvigorate old IT tools." (I-11)	Collaborative creation of DPCs tech incubators			

TABLE 2 (Continued)

Representative extracts	Concepts (open coding)	Subcategories (axial coding)	Categories (axial coding)	Core category (selective coding)
"It's all about [giving?] back. […] We've got members who've been in [the] game for years now teaching workshops, sharing life hacks, career advice—you name it. It's grassroots at its finest." (I-20)	Implementation of grassroots-oriented mentorship and education initiatives			
"We're really pushing for everyone in our co-op to get a grip on our core values. So, we put together these sessions where we [all] get together and talk about what those values mean in our day-to-day [operation]." (I-26)	Developing cooperative values and principles workshops	Cultivating Cooperative Governance Values and Ethics		
"In our platform, users and local communities play a fundamental role in defining the rules and decisions concerning the platform itself. […] Collaboration and interaction [among stakeholders] allow for the creation of a sustainable and responsible ecosystem that respects the needs of everyone." (I-30)	Enhancing awareness of cooperative governance and decision-making processes			
"So … we started this program, right? It's all about helping our neighbours navigate this digital world. From setting up an email, [for instance], to understanding social media, we're here to guide them through." (I-31)	Implementing community-based digital literacy programs	Digital Literacy and Accessibility Advancement		
"When we started the co-op, we quickly realised the need to train local community [members]. So, we collaborated with public organisations to set up IT training sessions. This was not just about giving them jobs but truly empowering them through technology. […] We wanted to make sure that in our pursuit of tech prowess, we didn't end up exploiting those we aimed to support." (I-23)	Establishing accessible IT infrastructure and resources for local residents			
"Well, [platform name] is like the solution for all your problems, you know. So, we kind of approached various platforms that already exist or different organisations that work in the same area, and we asked them, 'What is it that you're missing, or why? What's working for you, what's not working for you, and how could we work together?'" (I-28)	Cross-Regional Synergy Networks	Grassroots Innovation Incubation	Federating Cooperative Ventures	

(Continues)

TABLE 2 (Continued)

Representative extracts	Concepts (open coding)	Subcategories (axial coding)	Categories (axial coding)	Core category (selective coding)
"The capitalist sharing economy sometimes feels like a race, and not everyone starts at the same starting line. Those with familial or other commitments, you know, are often left behind. That's why our 'design-for-solidarity' approach is so good. It levels the playing field for everyone." (I-14)	Promoting solidarity through shared resources and knowledge in diverse DPC projects			
"We've got this virtual meetup going on, where co-ops from different places share what's working for them. It's like […], everyone brings something to the table." (I-01)	Encouraging knowledge exchange between geographically dispersed DPCs			
"… if someone's got a skill or a resource that can help, they step [up]. Just pure collaborative spirit." (I-13)	Sharing resources and expertise among cooperatives	Inter-Cooperative Service Alliances		
"We always on the lookout for like-minded [allies]. When we establish a partnership, it's with the long game in mind. We're building relationships that help us serve our members better." (I-19)	Establishing joint ventures or partnerships			
"… it's like we're building bridges between co-ops. Best practices from there, knowledge transfer from here—it's a two-way kind of street that's making all of us better." (I-19)	Implementing cooperative exchange programs to share best practices and knowledge transfer			
"So, implementing blockchain, it's given us this level of security that's just unshakeable. Our members trust the DAO because they know it's as secure as it gets." (I-26)	Implementing blockchain technology for secure and transparent transactions	Decentralised Cooperative Governance Platforms		
"DAO isn't just about tech; it's about governance that's as innovative as the blockchain itself. We're opening up structures that ensure equity and collective decision-making" (I-30)	Developing governance structures for DAOs in platform cooperatives			
"Our co-ops is heavily inspired by DAOs. While we're not in the blockchain space, the principle of decentralised decision-making resonates deeply with our cooperative values." (I-26)	Utilising smart contracts for automated decision-making in cooperatives			
"[…] we've developed new sharing licenses that make data exchange seamless, secure, and in line with the principles of the commons economy. It's about fostering trust and building a data ecosystem that benefits everyone." (I-12)	Data ownership and control by communities	Data Governance and Equity	Commoning Practices for Narrative Co-creation	
"We're all about fair play in our co-op, especially when it comes to data. We make sure the benefits aren't just handled by a few; they're spread out […]" (I-07)	Equitable distribution of data benefits			

TABLE 2 (Continued)

Representative extracts	Concepts (open coding)	Subcategories (axial coding)	Categories (axial coding)	Core category (selective coding)
"To us, data privacy isn't an afterthought; it's part of our DNA. […] We're all about protecting our local members' information and other details, like it's our own personal secret." (I-14)	Data privacy and protection in communal settings			
"So this other co-op did something amazing, and we're all over it. We're using their story as a case study, […] like a roadmap for our own success. It's super inspiring."	Showcasing successful examples and case studies	Open-Source Collaboration Networks		
"Our mission is to provide an ethical service to the commons, through open-source tech, pay fair wages to workers, and use surplus income to support elements of the commons." (I-12)	Providing resources for launching and managing open-source toolkits			
"There's always something going on in our chat rooms. Someone's worked out a shortcut, a new tool, or a fresh idea, and whatever it might be, it's shared for all of us to use."	Peer-to-peer knowledge exchange among platform cooperative members	Democratic Digital Infrastructures		
"We're all about mutualisation around here. It's like, your know-how becomes mine, mine becomes yours, and before you know it, […]"	Mutualisation of knowledge			

TABLE 3 Stages of data analysis.

	Stage of coding	Key tasks	Outputs	Domains of reality	Scientific reasoning
1	Open coding	• Familiarising with empirical material (within/across informants reading and memoeing) • Labelling data as concepts with initial codes	Concepts (social value creation events, experiences, practices on DPC)	Empirical domain	
2	Axial coding (*iterative*)	• Identifying patterns and regularities from concepts • Developing categories • Breaking categories down into specific elements or dimensions to form subcategories • Identifying relationships between categories and subcategories	*Categories* (outcomes of social value creation on DPC) and subcategories	Actual domain	*Induction* is used to categorise concepts. *Abduction*: Surprising concepts could emerge in the open coding stage, leading to anomalies in identifying patterns and regularities. As relationships between concepts form categories and subcategories, abduction helps in interpreting these relationships, suggesting novel explanations for why these patterns or anomalies occur.
3	Selective coding (*iterative*)	• Revisiting literature and theories around social value creation on digital platforms • Synthesising categories/ subcategories to form a core category • Theorising about the central phenomenon that is, social value creation on digital platform cooperativism	*Core category* (cohesive explanatory framework as the central theme of social value creation on DPC)	Actual domain	*Retroduction intensifies*: Focusing on the core category, retroduction is used to theorise underlying structures and processes that must exist for the social value creation to occur on digital platform cooperativism, informed by *abduction* to accommodate surprising insights.
4	Axial/ Selective Coding (*iterative*)	• Formulating theoretical constructs • Theorising underlying structures that constitute generative mechanisms based on the core category	*Theoretical constructs* (underlying causes or potential explanation)	Actual domain	*Abductive and retroductive synthesis*: Theoretical constructs are developed using abduction to posit how identified categories explain the core category. Retroduction is used to deepen the understanding of these constructs by speculating on underlying mechanisms.
5	Beyond coding (*iterative*)	• Identifying generative mechanisms • Recognising and analysing the specific	*Generative mechanisms* (underlying processes, powers or structures leading to social value	Real domain	*Retroductive culmination*: Final exploration of deep causal structures.

TABLE 3 (Continued)

Stage of coding	Key tasks	Outputs	Domains of reality	Scientific reasoning
	conditions that enable or limit the activation and operation of the generative mechanisms. • Developing exemplar case vignettes (Table A3)	creation on DPC) and *Contextual conditions* (specific circumstances or settings in which the generative mechanisms operate.)		

Cooperative Ventures, and Commoning Practices for Narrative Co-creation. It is crucial to acknowledge, in line with critical realism principles, that these outcomes are shaped by both empirical evidence and theoretical discourse.

5.1.1 | Strengthening community capacities

In the evolving landscape of digital platform cooperativism, the imperative to strengthen community capacities emerges as a cornerstone for fostering social value creation. This holistic approach transcends mere economic metrics, weaving together a fabric of initiatives that collectively empower, technologise, and govern communities in a way that aligns with the core principles of cooperativism. At its heart, the effort to bolster community capacities is a narrative of interconnectedness, where economic empowerment, technological inclusivity, collaborative governance, and digital literacy coalesce to redefine the ecosystem within which DPCs operate.

Economic resilience forms the bedrock of this transformative journey. The early stages of DPC development are fraught with financial hurdles—from prohibitive rents to escalating overheads—that can stifle innovation and growth (Borkin, 2019; OConnor, 2023). In response, targeted initiatives such as rent subsidy programs and cost reduction policies become vital lifelines. Rent subsidy programs, for instance, provide direct financial support to cooperatives, helping them to mitigate the initial costs of setting up physical spaces for operation (Davies et al., 2023). These are not merely fiscal band-aids but represent a deeper commitment to community economic resilience. This support is essential for promoting community capacities, as it emphasises cooperative ownership of communal resources, self-governance, and empowerment as key social values. As one platform co-founder remarked, "in our platform, users and local communities play a fundamental role in defining the rules and decisions concerning the platform itself" (I-06), highlighting the intrinsic link between economic initiatives and the participatory governance that underpins DPCs. This participatory governance is further nurtured through *public-community partnership facilitation* (Russell et al., 2023). The symbiosis between DPCs and local authorities yields a fertile ground for innovation, as demonstrated by the provisioning of publicly owned spaces for cooperative use. The aftermath of the pandemic, with its "surplus of office spaces, [has opened new avenues]" for imagining "digital cooperative working spaces dedicated to social good" (I-10)—an opportunity borne out of adversity and made possible through governmental support.

Technological empowerment stands as a critical pillar within this ecosystem. The establishment of *local tech empowerment hubs* signifies a shift towards democratising technology, making it accessible and relevant to the needs of the community. Collaborative efforts to set up IT training sessions, as one interviewee shared below, aim not just at providing jobs but at "truly empowering them through technology" (I-23). This reflects a nuanced understanding that the technology's value lies in its ability to empower without exploiting, ensuring that DPCs harness tech for communal benefit.

> "When we started the co-op, we quickly realised the need to train local community [members]. So, we collaborated with public organisations to set up IT training sessions. This was not just about giving them jobs but truly empowering them through technology. […] We wanted to make sure that in our

pursuit of tech prowess, we didn't end up exploiting those we aimed to support."

(I-23)

The narrative emphasises the importance of *cooperative governance*, *ethics*, *and values* in self-governed DPCs. By offering workshops on cooperative ethics and improving awareness of decision-making processes, DPCs promote a culture of independence, allowing communities to manage their affairs and resolve conflicts through participatory methods (Spier, 2022). This approach makes DPCs responsive to the needs of their users, leading to the creation of innovative, locally relevant solutions. Furthermore, self-governance ensures equitable distribution of benefits among members, strengthening social bonds, collaboration, and mutual support. The significance of learning cooperative ethics is highlighted as a fundamental aspect of this governance model, with examples from platform co-founders instantiating its impact.

"In our platform, users and local communities play a fundamental role in defining the rules and decisions concerning the platform itself. […] Collaboration and interaction [among stakeholders] allow for the creation of a sustainable and responsible ecosystem that respects the needs of everyone."

(I-29)

Finally, the advancement of *digital literacy and accessibility* ensures that the digital revolution does not leave behind segments of the community. Community-based digital literacy programs and the establishment of accessible IT infrastructure marks the commitment to an inclusive digital future. This inclusivity is paramount in ensuring that the benefits of DPCs—be they economic, social, or technological—are equitably distributed, reinforcing the social fabric of the community.

The development of DPCs highlights the effectiveness of working together and the impactful change that cooperativism can bring. This approach combines economic growth, technology access, shared governance, and digital knowledge into a unified strategy that changes the way value is created in the digital era. DPCs are seen not only as businesses but as leaders in social innovation, leading to a future that is fair, welcoming to all, and sustainable through the shared power of communities.

5.1.2 | Federating cooperative ventures

We also observed a paradigm shift, where the emergent model is no longer singular cooperatives operating in isolation but a federation—"a cooperative of cooperatives" (I-9), or a federation of cooperativism. This approach focuses on maximising potential social value by doing more with less. The concept pivots away from the economic centricity of traditional platform ecosystems (Ofe & Sandberg, 2022) which are driven by network effects for increasing (often economic) value with a centralised power dynamic (Kroeger & Weber, 2014). Federations emphasise the fostering of a culture of mutual benefit and collective welfare in a decentralised network.

We observed that federation reflects a design-for-solidarity approach, envisioning an equitable cooperative landscape where no member—regardless of personal circumstances—is disadvantaged as with many cases in the capitalist sharing and gig economy (Warren, 2021). It utilises a central platform as a 'convenor' to link with similar cooperatives across different sectors, creating a network of local co-production. This strategy counters the instability often seen in the gig economy (Scholz, 2023) and demonstrates the transformative potential of cooperative alliances. For instance, a Swiss-based food network co-op in our study serves as a convenor, connecting, consulting, and empowering local producers, thereby establishing a crucial knowledge hub for the community's agricultural development.

"Well, [platform name] is like the solution for all your problems, you know. So, we kind of approached various platforms that already exist or different organisations that work in the same area, and we

asked them, 'What is it that you're missing, or why? What's working for you, what's not working for you, and how could we work together?'"

(I-28)

The cooperative federation also serves as a bulwark against the centralisation of power and resources, as one participant reflects on their convenor platform, noting its role in not just resource pooling but in the sharing of values and communal objectives. Here, every decision emphasises long-term solidarity, effectively levelling the playing field for all involved, much as two participants eloquently illustrate:

"The capitalist sharing economy sometimes feels like a race, and not everyone starts at the same starting line. Those with familial or other commitments, you know, are often left behind. That's why our 'design-for-solidarity' approach is so good. It levels the playing field for everyone."

(I-14)

"The [convenor] platform we are part of has been a blessing. It's not just about pooling resources; it's about sharing values and working towards a common goal of bettering the community. […] Every decision is made with long-term solidarity in mind."

(I-2)

Moreover, this federated model inherently encourages the *incubation of grassroots innovation*, forging cross-regional synergy networks that nurture knowledge exchange among DPCs. These networks transcend geographical boundaries, thereby creating a tapestry of shared resources and expertise, solidifying the co-ops' foundation.

Furthermore, participants particularly mentioned the importance of *building inter-cooperative service alliances*, which are instrumental in the diversification and strengthening of cooperative ventures. By sharing resources and establishing joint ventures, DPCs leverage collective expertise and adopt cooperative exchange programmes that bolster best practices and knowledge transfer (Bauwens & Kostakis, 2014). This is a significant departure from the competitive ethos that dominates traditional business practices and is more in line with the original cooperative principles of solidarity and mutual aid.

In a landscape that increasingly values technological innovation, DPCs are exploring *decentralised governance platforms*, drawing inspiration from decentralised autonomous organisations (I-26 and I-30) and utilising smart contracts for automated decision-making (Kyprioti aki et al., 2015). The principles of DAOs resonate with the cooperative ethos of decentralised power and community-led initiatives. The innovative adoption of blockchain technology for secure transactions and the development of governance structures tailored to DAOs in DPCs reflect an aspirational vision for cooperative ventures. Participants have noted the potential for such technologies to restructure businesses for collective benefit, as one remarks:

"We see DAOs as a natural progression for cooperatives that want to be at the forefront of technological and organizational innovation. It's not just about profits; it's about redefining how businesses can be structured for the collective good."

(I-26)

"Our platform is heavily inspired by DAOs. While we're not in the blockchain space, the principle of decentralised decision-making resonates deeply with our cooperative values."

(I-30)

As we contemplate the future of work and the evolving structures of social protection, it is clear that there is a discernible pivot from traditional, monolithic systems to "larger, structured systems to these nimble, trust-based

collectives" (I-5). These collectives aren't just gatherings of individuals; they represent a profound commitment to cooperative values, as another participant affirms, "it's about shared ideals and mutual support in action." (I-26).

In such an ecosystem, the utilitarian design of work and governance morphs into a more decentralised, participatory framework. It is a framework where federated cooperative ventures are not just operational entities but represent a radical reconceptualization of how values are created and sustained. They are deemed as the forerunners of a paradigm where the significance of local action and global connectivity coalesce. One participant envisages this future "as a decentralised and distributed system, with small local groups connected through the internet to share knowledge while producing locally" (I-30). This vision indicates the fundamental principle of federation in DPCs, which is about more than just cooperative business practices—it is a comprehensive blueprint for a resilient, interconnected society built on the bedrock of mutual support and cooperative solidarity.

5.1.3 | Commoning practices for narrative co-creation

The practice of commoning in DPC is another outcome of social value creation as embodiment of specific social value in relation to digital and platform commons. It is not just about communal ownership, but about co-creating a narrative that infuses every aspect of platform development with egalitarianism and fairness. We learned that it is a narrative that counters the extractive tendencies of platform capitalism (Srnicek, 2017) by prioritising communal rights and the collective good over economies of scale. As such, the narrative forges a bond between the platform and its users, encapsulating the essence of DPCs as voiced by one participant: "enough space [on the platform] for users themselves to satisfy their own needs" (I-21). For example, workers at a ridesharing co-op are seen as employees who make decisions together, rather than contractors serving customers through the platform. These workers are treated like board members, with co-founders working closely with customers to understand their needs better. Embedded within this narrative are the principles of *data governance and equity*, ensuring that data ownership remains with the community, thus distributing its benefits equitably. This is foundational to the ethos of commoning, where data privacy and protection are not afterthoughts but are integral to the very fabric of the platform's structure.

In this same vein, the ethos of open source is woven into the narrative, not merely as a technological choice, but as a cultural statement. In many cases, we observed that every worker is also considered part of 'the commons' (Papadimitropoulos, 2021; Scholz, 2016; Zygmuntowski, 2018) on which the platform builds value through open design and open source principles (Kasparian, 2023; Kostakis & Bauwens, 2017; I-10, I-26, I-34). It signifies a commitment to collaboration and resource sharing that transcends mere transactions, supporting a vision where, according to one member, the mission is:

> "to provide an ethical service to the commons, through open-source tech, pay fair wages to workers, and use surplus income to support elements of the commons."
>
> (I-12)

Open-source collaboration networks thus become the crucibles for innovation and ethical technology development, which fosters a space where successful case studies and toolkits can be shared and replicated across the DPC landscape.

The narrative of platform commons is also about constructing democratic digital infrastructures, where platforms are built not on the principle of surveillance and control (Zuboff, 2019) but on peer-to-peer knowledge exchange and mutual support. This *democratic infrastructure* is key to sustaining the cooperative ecosystem and enabling it to adapt and grow organically. As a platform strategist emphasised, in resisting surveillance capitalism:

> "We're not just cloning technology for the sake of it; we're looking to reinvent it within a framework that challenges surveillance capitalism and emphasises community ownership."
>
> (I-03)

However, this visionary approach is met with caution by some within the DPC community who worry about the competitive sustainability of platforms that do not prioritise traditional growth metrics. This scepticism is encapsulated by the concern that "the idea is noble, in a competitive tech landscape, it's challenging to sustain a platform that doesn't prioritise scalability and rapid growth" (I-10). Yet the determination to infuse the values of the platform commons into technological solutions remains undeterred, with a focus on fostering connections that align with the principles of a "people's internet" (I-01; Sandoval, 2020) and respond to market disruptions with cooperative solutions.

5.1.4 | Co-constructing cooperative value ecosystems

Deepening our exploration into the landscape of platform cooperativism, we arrive at the core category that weaves together the strands of our investigation: Co-constructing Cooperative Value Ecosystems. This concept integrates the collaborative efforts of community empowerment, inter-cooperative collaboration, and shared narrative-building. It encompasses dimensions such as equitable participation, mutual support, and collective economic growth, forming a transformative model that contrasts traditional capitalist structures. By fostering community-centred development and social engagement, Co-constructing Cooperative Value Ecosystems creates a cohesive frame of reference that illustrates the potential of cooperativism. This concept enables communities to work together to build sustainable, inclusive economic ecosystems, driven by shared purpose and mutual support, and reflecting the quintessence of cooperativism.

5.2 | Generative mechanisms for co-constructing cooperative value ecosystems

Following our critical realist grounded theory approach, we delineate key theoretical constructs that are considered "conceptual abstractions of phenomena and … foundation of theory" (Suddaby, 2010, p. 346). The retroductive reasoning applied embodies a process of theorising, after all, where theory is generated on the basis of the empirical and actual domains of reality. This means that while these constructs are identified based on our direct observations—namely, immediate and specific explanations for the three outcomes and the core category—they serve as the foundation for the generative mechanisms leading to social value creation.

The first construct is participatory governance and shared stewardship. It encapsulates the emergent ethos from categories such as Strengthening Community Capacities and Commoning Practices for Narrative Co-creation. This construct underlines a collective agency in defining and navigating the cooperative landscape, which is mirrored in the practices of community-driven data governance and inclusive technological empowerment. The second construct—technological and economic inclusion—resonates through the dimension of Federating Cooperative Ventures, highlighting how distributed technological initiatives and economic support coalesce to democratise opportunity within DPCs. These constructs not only embody the empirical findings but also align seamlessly with the core category of co-constructing cooperative value ecosystems. They provide a theoretical lens for interpreting the intricate dance of cooperation and communal growth.

From these constructs, we unravel two generative mechanisms that provide casual explanations (Williams & Karahanna, 2013). These generative mechanisms operate at a deeper ontological level, referring to the capacities or powers of entities. The collective identity and empowerment mechanism interprets the coalescence of shared values, ethical governance, and technological empowerment as a dynamic force in sculpting a distinct cooperative identity,

whilst the government-community symbiosis mechanism showcases the synergy between grassroots cooperativism and supportive government structures, essential in elevating the commoning narrative to operational fruition. Together, these mechanisms offer a comprehensive view of the intricate interplay between individual agency, collective endeavour, and structural support that defines the cooperative movement's contribution to social value creation.

5.2.1 | Collective identity and empowerment

The mechanism of collective identity and empowerment is intrinsic to the social value creation on DPCs. At the heart of this mechanism is the cultivation of a robust collective identity which is not an end in itself, but a dynamic process that draws on the commoning practices and participatory governance exemplified in the core category of co-constructing cooperative value ecosystems. It signifies a movement towards a system where cooperative values are not only professed but also operationalized within the digital economy.

Scholz (2016)'s delineation of the challenges faced by DPCs, particularly in gaining political support, highlights the political undertones of this identity formation. Cooperatives strive to establish an identity aligned with left-wing ideals that advocate for a decentralised and equitable distribution of power—ideals that are at odds with the centralising tendencies of traditional platform economies (Srnicek, 2017; Zhang, Li, & Wang, 2021). The grassroots approach to service delivery is emblematic of this identity, as it seeks to enshrine principles of shared ownership and collective data management into the very fabric of DPCs (Scholz & Schneider, 2016).

"The commons economy", referenced by participants (I-12) and scholars like Bollier and Helfrich (2015), is pivotal in shaping this identity as well. It posits a transformative paradigm where the economy is centred around shared resources and cooperative management—the principles that DPCs aim to embed within the emerging data-driven economy. The rise of data commons, as Baack (2015) notes, symbolises a shift towards community-centric data ventures and cooperative data management Muldoon (2022) empowering citizens with "data sovereignty" (I-5). This empowerment is crucial for allowing individuals to govern their own data and for utilising these resources for collective benefit.

In practice, this empowerment is facilitated through citizen data cooperatives, which deviate from traditional data commodification, instead asserting community ownership over data for collective good:

> "Traditional models treat data as a commodity to be bought and sold, often at the expense of the individual. With citizen data co-ops, there's an understanding that this data belongs to the community and should be used for the collective good."
>
> (I-11)

Furthermore, the development of sharing licences reflects a commitment to a secure and equitable data ecosystem,

> "[…] fostering trust and building a data ecosystem that benefits everyone."
>
> (I-12)

Initiatives, such as creating data sharing licences and the development of data platforms, empower citizens to save and disseminate their data for research initiatives of their choosing.

Yet, the endeavour to establish such an identity comes up against entrenched systems of digital feudalism, where platform owners wield disproportionate power. Cooperatives find themselves in a "David-versus-Goliath battle" (I-11), navigating "accumulation by dispossession" (Sadowski, 2019; Thatcher et al., 2016) and resisting digital feudal lords. This is not merely theoretical; it is a tangible struggle as one participant analogises:

> "It's very similar in this context of like owners of platforms are the feudal Lords and from my perspective it's like we have to launch this like revolution against the new feudalism."
>
> (I-11)

This revolution is both a metaphor and a concrete action, as local bottom-up movements aim to reshape perceptions of DPCs, emphasising their democratic and inclusive nature. These efforts, while seemingly modest, are potent in shifting power dynamics and fostering regional federated cooperativism.

In conclusion, the Collective Identity and Empowerment mechanism is a generative force that synthesises the cooperative identity with tangible practices of data sovereignty and shared governance. It challenges the centralising and exploitative tendencies of the capitalist model, offering a decentralised alternative that champions the common good. By fostering a collective identity steeped in cooperative values and democratic practices, DPCs not only confront existing power structures but also lay the groundwork for a cooperative value ecosystem that is as formidable as any established by corporate platforms.

5.2.2 | Government-community symbiosis

The government-community symbiosis mechanism emerges as a generative force within the co-constructing cooperative value ecosystems; it serves as a critical conduit for translating the collective vision of DPCs into tangible social value. This mechanism articulates the integral role of local governments in concert with cooperative communities, hence creating an interdependent relationship that catalyses economic and social growth within the cooperative framework.

Local governments, through strategic procurement policies and an investment in public goods and spaces, provide an institutional backbone that supports and amplifies the efforts of cooperative communities (Kasparian, 2023). We observed that these policies go beyond mere wealth generation; they construct a scaffold for the cooperative sector to flourish. The strength of this symbiosis lies in its capacity to provide a nurturing environment for DPCs to thrive, as one participant vividly notes:

> "We've witnessed first-hand the power of targeted industrial strategies. When local governments prioritise digital transformation in line with the cooperative spirit, the entire community gets the benefits. It's [a] symbiotic [relationship] that fosters genuine growth"
>
> (I-4).

Muldoon (2022) reiterates the protective role of public procurement, which extends far beyond immediate economic outcomes, suggesting an enduring impact on the cooperative ecosystem.

Furthermore, the importance of a robust public digital infrastructure cannot be overstated. As cooperatives increasingly rely on digital technologies, the necessity for supportive infrastructure becomes paramount. A participant emphasised this, stating:

> "[…] where everything is interconnected, our ability to keep local cooperatives at the forefront of digital transformation hinges on the strength and adaptability of our infrastructure."
>
> (I-34)

This digital backbone enables cooperatives to partake fully in the digital economy, thereby ensuring their initiatives are grounded in resilient technological capabilities.

Government agencies serve as the linchpins in this symbiotic relationship, tailoring their strategies to the nuanced needs of cooperative communities. The ongoing dialogue between local governments and cooperatives

facilitates tailored approaches to market engagement and funding opportunities (OConnor, 2023). One participant shared their experience:

> "We maintain contact with local governments. We're planning a marketing campaign that essentially involves a government-sponsored agency coordinating efforts with several other partners in Berlin. […] We're also exploring funding options; however, they haven't quite aligned yet."
>
> (I-8)

This mechanism is particularly pronounced in sectors such as mobility and transportation, where local agencies are not just proponents but active participants in projects that advance sustainable practices. By investing in initiatives like electric vehicle infrastructure, local governments demonstrate a commitment to sustainable development that resonates deeply with cooperative values.

The government-community symbiosis mechanism is, therefore, a testament to the interdependent and mutually beneficial partnership necessary for DPCs to realise their full potential. It encapsulates a model of growth that is not unidirectional but reciprocal, where the success of cooperatives and the welfare of communities are inextricably linked to the foresight and support of local governance. This partnership does not merely respond to present demands but anticipates future needs, thereby fostering a cooperative economy poised for resilience and longevity.

5.3 | Contextual conditions

In the critical realist framework, contextual conditions are paramount for the genesis and operation of generative mechanisms, providing a comprehensive backdrop for understanding the phenomena observed in platform cooperativism (Mingers et al., 2013; Williams & Karahanna, 2013). In our exploration into the realm of platform cooperativism, particularly through the lens of 'co-constructing cooperative value ecosystems', we discern three pivotal contextual conditions that profoundly impact the generative mechanisms at play.

First, the dynamism of the cooperative value ecosystem is significantly driven by grassroots mobilisation and advocacy, the first contextual condition, which emphasises the critical role of community-led actions in catalysing the mechanism of 'collective identity and empowerment'. This approach, inspired by the rich tradition of digital activism highlighted by Chamakiotis et al. (2021) and the effectiveness of localised efforts as noted by Vandaele (2018) underpins the strength of ethical engagement. Such efforts not only distinguish DPCs from market-driven alternatives but also foster a culture of ethical commoning crucial for their development. A participant's observation, "Uh, it is traditional in its ownership and governance structure, but you know, we're just trying to achieve the market niche of being ethical we have" (I-17), reflects this ethos, emphasising the unique position of DPCs in fostering community and ethical values. Moreover, the manifestation of these principles in local cooperatives, identifying as "ethical alternative to traditional co-ops" (I-17), showcases their commitment to worker ownership, environmental sustainability, and financial stability. A London-based food platform's dedication to supporting local businesses and ensuring the financial security of its workers exemplifies the strategic alignment with the cooperative mission, addressing concerns over worker exploitation and enhancing public control and engagement in cooperative movements.

Nevertheless, this contextual condition faces substantial challenges, particularly in achieving financial and strategic sustainability (Scholz & Calzada, 2021). The development of a viable cooperative business model that supports community and federated cooperativism requires innovative approaches to funding and growth, diverging from traditional venture capital methods focused on rapid returns (Bauwens & Kostakis, 2014; Pentzien, 2020). DPCs opt for collective funding and aim for broad impacts, strategies that enable them to efficiently gather capital and articulate their value propositions. This approach also addresses the challenge of creating business models that are difficult for venture-capital-backed companies to replicate (Borkin, 2019), ensuring the sustainability and distinctiveness of

DPCs. The emphasis on grassroots efforts and ethical engagement, alongside strategic financial planning, underscores the foundational conditions necessary for the flourishing of cooperative identities and the overcoming of operational challenges.

The second contextual condition, institutional commitment and policy support, is critical for nurturing the symbiotic relationship between government entities and cooperatives, acting as a cornerstone for the flourishing of a cooperative-centric digital economy. This dynamic interplay indicates not just the significance of policy and support but highlights the necessity of governmental engagement in every facet of cooperative development. Scholz and Schneider (2016) capture this essence, emphasising the role of "the politics of lived acts of cooperation" (p.26), where government actions are instrumental in reinforcing cooperative ventures. This synergy is pivotal, as it transcends mere regulatory enforcement, thereby addressing the nuanced challenges of policy implementation. The insights from a participant on the complexities of European regulations on grassroots broadband projects articulate the critical gap between the existence of regulatory frameworks and their effective enforcement: "failure to enforce regulatory frameworks, rather than [the regulations] themselves" (I-34). This stresses the need for a strategy infused with transparency and expertise to cultivate a thriving cooperative value ecosystem (Corbett & Mellouli, 2017).

Such a supportive ecosystem, fostered by governmental commitment and policy backing, lays the groundwork for innovation and community empowerment. This marks the birth of a vibrant ecosystem where value-sharing and cooperative principles are important. The role of government in this equation is indispensable; by dedicating resources and policy frameworks that prioritise the needs and aspirations of DPC stakeholders, governments instigate a trust-building process that is essential for the collective success of platform cooperativism (OConnor, 2023). This proactive stance by governments and institutions outweighs traditional regulatory roles; it veers onto the creation of a nurturing environment that facilitates the growth of public-community partnerships.

Third, legislative frameworks for cooperative integration stand as another contextual condition and play a crucial role in facilitating the symbiotic relationship between governments and cooperatives as well. While the presence and robustness of such frameworks vary globally, evidence from contexts where progressive legislation supports co-ops illustrates their potential to significantly enhance cooperative ventures (Davies et al., 2023; Scholz, 2023). In locales where these legislative conditions are realised, we observe an invigorated collaboration between co-ops and governments, which showcases the direct activation of the government-community symbiosis mechanism. This variation across different geographies highlights a vital point: the impact of legislative frameworks is contingent upon their existence and implementation. Reflecting on the insights of Sundararajan (2017), who argues for the need of laws to evolve with technological advancements to support cooperative models, and Avent (2016), who advocates for socialised regulations that bolster the emergence of cooperatives, we see a clear pathway towards enhancing the government-community symbiosis. Furthermore, Srnicek (2017)'s stress on a landscape often marked by rigid, profit-centric laws serves as a call for legislative reform. By enacting and enforcing laws that prioritise democratic models and equitable sharing (I-05), as echoed by these scholars, the stage is set for a deepened and more productive interplay between cooperatives and government bodies.

6 | DISCUSSION AND CONCLUSION

This study aimed to identify the generative mechanisms that can best explain and lead to the phenomenon of social value creation on platform cooperativism. Our analysis delineates a structured path from observable social value creation events and practices to the coalescence of these activities into discernible outcomes. This progression is visually captured in Figure 1, which systematically maps the trajectory of generative mechanisms and their contextual conditions towards actualised social value creation outcomes.

The three contextual conditions set the stage for the activation of the identified generative mechanisms with best explanatory power (Bygstad et al., 2016). The first condition, Grassroots Mobilisation and Advocacy (CC1), is instrumental in directly triggering the Collective Identity and Empowerment mechanism (GM1). This mechanism

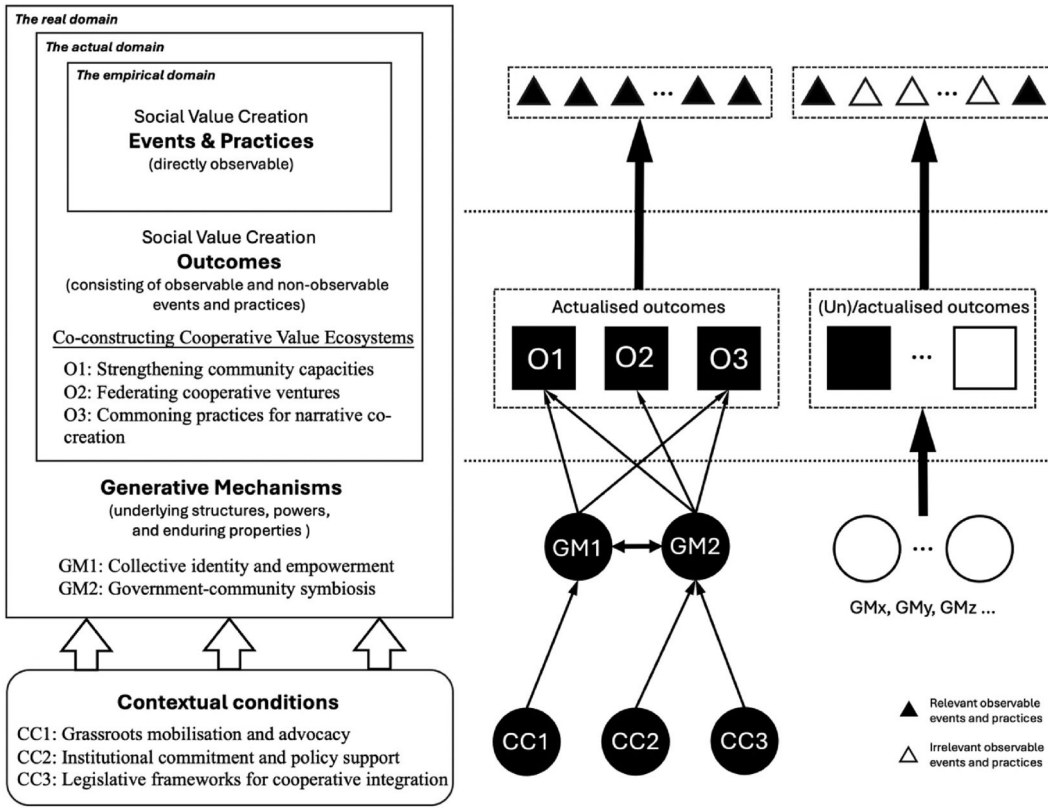

FIGURE 1 Configurational perspectives of social value creation on platform cooperativism.

plays a crucial role in the formation of a robust cooperative identity, underpinning the empowerment of community members through active participation and shared governance. Here, the collective spirit is nurtured, giving rise to a collective agency that propels the cooperative movement. With regard to the second condition, Institutional Commitment and Policy Support (CC2), we see a direct and essential activation of the Government-Community Symbiosis mechanism (GM2). Government entities, through policy support and investments, provide a nurturing environment that allows DPCs to thrive, thus reinforcing the structure within which these communities operate. Similarly, the third condition, Legislative Frameworks for Cooperative Integration (CC3), complements CC2 in triggering GM2. By developing a legal framework favourable to cooperative principles, this condition ensures that DPCs have the legislative backing to grow and embed their practices within the broader socio-economic fabric.

The relationship between the two mechanisms suggests how they support and strengthen each other. GM1 builds up the cooperative's sense of community and its members' ability to take charge, which prepares them to work better with outside groups like governments. This inner force reinforces GM2, where government support helps DPCs' projects grow. At the same time, this outside help from GM2 feeds back to strengthen the sense of community created by GM1, hence leading to a positive loop of growth and mutual support between DPCs and the government.

These configurations further indicate how the defined mechanisms interact to shape various outcomes of social value creation. Essentially, both outcomes of Strengthening Community Capacities (O1) and Commoning Practices for Narrative Co-Creation (O3) materialise when the interplay between these mechanisms is active. O1 is a direct reflection of GM1's emphasis on communal empowerment through shared governance and ethics, bolstered by GM2's infrastructure of government support, which indicates a synergy where governmental policies empower

communities to realise their capabilities fully. Similarly, O3 focuses on creating a communal narrative aligns with GM1's advocacy for a collective identity that is fostered by the collaborative environment that GM2 facilitates. This demonstrates that the co-creation of narratives within the digital commons is a product of this inter-mechanism effect. Meanwhile, GM2 is key, and considered the only driving force with the best explanation, to help these federated networks grow and succeed (O2). Together, these configurations indicate how the identified mechanisms not only lead to their respective outcomes but also interconnect to support a thriving cooperative value ecosystem.

Finally, this value ecosystem is complex, where identified mechanisms actively shape observable outcomes, whilst it also opens up the possibility of other, yet unidentified mechanisms (GMx, GMy, GMz, etc.) at play—represented by open circles in the figure—which might influence outcomes that have not been realised or observed. This acknowledges the dynamic nature of the social world (Williams & Wynn Jr, 2018), where various factors could emerge, leading to new, significant developments. In this line, the events and practices either contribute directly to these outcomes or exist without having an apparent impact, respectively, highlighting that the value creation process in platform cooperativism is multifaceted and subject to evolution as new elements come into focus.

In what follows, we discuss our theoretical contributions, methodological contributions and practical implications, as well as our acknowledged limitations of the research.

6.1 | Theoretical contributions

The first theoretical contribution of the study is that the findings illustrate a comprehensive framework of social value creation. The central theme around 'co-constructing cooperative value ecosystems' encapsulates the essence of the study, serving as the crucial concept that integrates our empirical findings within the frame of platform cooperativism. The value ecosystem captures the nature of collaborative growth and innovation, resonating deeply with theories of collective action and shared economies. It is a manifestation of community fortitude, technological democratisation, and narrative co-creation, reflecting a profound departure from the predominant focus on economic gain towards a balanced approach that prioritises community well-being and social integrity.

Economic empowerment, as evidenced by initiatives like rent subsidies and cost reduction policies, transcends the mere alleviation of financial burdens to embody a commitment to economic resilience and collective ownership—echoing Benington and Moore (2010)'s notion of public value creation. Furthermore, this empowerment facilitates a fertile synergy between DPCs and local authorities, reminiscent of the socio-technical ecosystems described by (Kapoor et al., 2021), where economic goals harmonise with societal needs. In addition, technological empowerment and governance models, as observed in DPCs' local tech hubs and participatory decision-making processes, challenge the 'black-boxed' strategies of corporate platforms (Burnicka & Zygmuntowski, 2019; Zygmuntowski, 2018) and mirror the principles of transparency and fairness emphasised by Fairmondo (Muñoz & Cohen, 2018). These findings illustrate the potency of integrating social values into operational models, underpinning the platforms' commitment to equitable progress and aligning with Scholz (2017) vision of a 'genuine' sharing economy.

Moreover, federating cooperative ventures stresses the significance of interconnected, mutually reinforcing networks that enhance collective welfare which, for the most part, chimes with the commentaries on the collaborative dynamics of social enterprise ecosystems (Lan et al., 2017). The adoption of DAOs and smart contracts illustrates an alignment with the aspirations of decentralisation and democratic governance in the digital realm that resonates with the concept of 'generativity tension' used to illustrate the conflicting effects of an ecosystem's capacity to foster innovation and new output from a wide range of contributors (Cennamo & Santaló, 2019; Jacobides et al., 2018). In another vein, the commoning practices foreground a transformative approach to platform governance, manifested through platform commons (e.g., community resources, infrastructures, collective ownership, and governance rules) being materialised. Co-creating a narrative around such concrete practices effectively counters the extractive nature of platform capitalism (Borkin, 2019; Srnicek, 2017) and surveillance capitalism (Zuboff, 2019) by fostering shared data sovereignty and open-source collaboration. This aligns with the cooperative principles of shared ownership and

community-oriented value, as theorised by Bauwens and Kostakis (2014), presenting an alternative narrative of digital infrastructure that privileges social value over surveillance and control.

Collectively, the findings delineate a cooperative value ecosystem where social value creation is an intrinsic, rather than ancillary, objective. This integrative approach to value creation signifies a paradigmatic shift, promoting a technological landscape that not only generates economic value but nurtures and sustains social values which, in turn, foster an inclusive digital economy underpinned by the principles of cooperativism.

Second, our study contributes to the extensive literature on the capitalist-cooperative tensions within the market economy (Srnicek, 2017; Zygmuntowski, 2018), viewing these through the lens of the identified generative mechanisms and contextual conditions. These mechanisms and conditions provide a nuanced perspective on the movement's ability to navigate the challenges posited by the 'degeneration thesis' (Egan, 1990), one that posits that cooperatives, when caught in capitalist markets, face a critical dilemma: they must either assimilate into capitalist entities, thereby losing their collective ethos (Srnicek, 2017), or uphold their principles at the potential expense of economic viability. In a nutshell, cooperatives are generally prone to failure regarding their political objectives (Sandoval, 2020). However, our findings suggest that platform cooperativism, within a value ecosystem, can strategically mitigate these risks through a symbiotic relationship between its internal dynamics and the broader sociopolitical landscape.

In turn, the two identified mechanisms are pivotal to platform cooperativism's resilience against degenerative forces. These mechanisms are amplified by digital activism, where Chamakiotis et al. (2021) argue that platforms enable collective actions aimed at societal change. Their study on digital activism in an online health community illustrates how digital platforms can serve as vehicles for cooperative movements to address societal issues. Echoing this view, we argue that the collective identity mechanism we have identified, for instance, fosters a robust internal culture that emphasises mutual aid and shared values, acting as a bulwark against the erosion of cooperative principles. Simultaneously, the symbiosis between co-ops and government entities, through supportive policies and institutional backing, provides an external shield that further insulates cooperatives from market pressures.

In another line, by delineating the mechanisms, our research stresses a potent counter-narrative to the depoliticised, individualistic entrepreneurship promoted within neoliberal capitalism (Grohmann, 2023; Sandoval, 2020). Our emphasis on shared values, ethical governance, technological empowerment, and the synergistic relationship between grassroots initiatives and supportive government structures illustrates a model of operation that is deeply political. Furthermore, the contextual conditions we have identified (grassroots mobilisation and advocacy, institutional commitment and policy support, and legislative frameworks for cooperative integration) allude to an ecosystem that not only nurtures the operationalization of generative mechanisms but also actively resists the degeneration forces (Egan, 1990). This ecosystem is characterised by a complex interplay among various stakeholders, including communities, governments, and legislative bodies, which can either support or hinder the development of a cooperative economy. Our insights into the contextual conditions suggest that for DPCs to flourish and create social value, there needs to be a conducive political and institutional environment that goes beyond the market logic and entrepreneurialism. Collectively, the identified mechanisms and conditions resonate with the need for a balanced approach to 'generativity' within platform cooperativism (Cennamo & Santaló, 2019; Staub et al., 2022), highlighting that increased innovation and variety, supported by a community-driven approach and inter-cooperative collaboration, contribute to a stronger cooperative identity and meaningful social value creation.

6.2 | Methodological implications

This study a rigorous application of a critical realist approach within grounded theory methods. This combination was instrumental in allowing us to identify the underlying generative mechanisms that lead to the emergence of social value. These mechanisms, as posited by critical realism, often lie beneath the observable surface (Wynn Jr & Williams, 2012). While grounded theory facilitated our open-ended exploration of the data, the lens of critical

realism, with its focus on mechanisms and the stratified nature of reality (the real, actual, empirical domains), enriched our interpretation and offered depth to our understanding (Hoddy, 2019; Oliver, 2012; Wynn Jr & Williams, 2012). This combination has ensured that our research was both empirically grounded and theoretically robust.

However, we do not claim novelty in our methodological approach, as other studies have already combined critical realism with various forms of grounded theory techniques in diverse research designs. For example, Zamani and Pouloudi (2021) apply Charmazian grounded theory techniques within the context of a netnographic study, whereas Belfrage and Hauf (2017) use grounded theory techniques alongside ethnographic methods; in both cases, the studies are framed within the critical realism paradigm, with retroduction playing a prominent role. Rather, we contribute a pragmatic template that advances the operationalisation of critical realist tenets, reconciles ontological concerns (Urquhart, 2001), and operationalizes the methods in a manner that enables researchers to critically analyse and reflect on the mechanisms underpinning digital social phenomena.

As delineated in Table 3, our systematic application of grounded theory's iterative coding strategies, inspired by the Straussian model (Strauss & Corbin, 1997), illuminates a pathway from empirical observations to the identification of various contextual conditions and plausible generative mechanisms that best explain the observed phenomenon, alongside the interplay between different concepts (refer to Figure 1). This approach not only unfolds detailed descriptive narratives but also promotes profound explanatory insights, reflective of the critical realist dedication to unpacking the stratified reality. Through iterative coding, culminating in the articulation of a core category and theoretical constructs, we demonstrate the transformation of empirical data into a cohesive theoretical framework via a critical realist perspective.

Regarding theorising—a path informed by both abduction and retroduction—theoretical constructs act as interpretive tools that provide clarity and depth to the observed empirical patterns (Meyer & Lunnay, 2013). These constructs serve as conceptual pillars that encapsulate the essence of participatory governance and shared stewardship as well as technological and economic inclusion—core attributes identified in the territory of platform cooperativism. The generative mechanisms, born from these theoretical constructs, offer causal explanations that probe the underlying dynamics and structures leading to the creation of social value. Hence, critical realist theorising effectively links observable social phenomena with the deeper, oft-hidden forces shaping them, hence enabling an articulation of how participatory practices and cooperative endeavours realise the potential for equitable and inclusive development. This synthesised approach narrows the gap between empirical substantiation and a broader philosophical exploration of causality, fostering a more reflective and philosophically informed empirical inquiry.

6.3 | Practical implications

We believe that these findings also hold significant implications for managing platform co-ops to create social value. Firstly, the study's findings underline the importance of embracing grassroots advocacy and local government support in guiding practitioners in structuring their strategies for more effective community engagement and policy influence. Secondly, the identified generative mechanisms and contextual conditions serve as a diagnostic tool for platform co-ops to assess their operations and strategically align themselves with practices that promote social value creation.

Our findings around collective identity and empowerment highlight the need for DPCs to foster strong community ties and a shared sense of purpose. By doing so, DPCs can enhance their cooperative identity and strengthen member engagement. This could involve creating participatory decision-making processes, facilitating knowledge exchange, and promoting transparency in operations. Such practices help in building trust and solidarity, which are crucial for the sustainability and growth of the cooperative movement. Regarding the interplay between governments and communities, our study suggests fostering collaborative relationships with local authorities can significantly bolster the capacity of platform co-ops. Practically, this means that DPCs should actively seek partnerships

with governmental bodies to secure supportive infrastructure, strategic policy advocacy, and access to public resources. Such alliances could lead to innovative solutions and the creation of a conducive environment that enables DPCs to contribute effectively to the local economy and community well-being.

6.4 | Limitations and issues for future research

Our study offers critical insights but has limitations as well due to its context-specific nature. The relevance and validity of our findings are subject to the particular setting of our research (Davison & Martinsons, 2016; Robey & Markus, 1998). We looked at sectors like mobility, food, creative industries, and tourism within the platform economy but did not explore others such as renewable energy, which have been examined by other research (Heras-Saizarbitoria et al., 2018; Yildiz et al., 2015) for their role in energy cooperatives. Our research also did not cover non-digital cooperativism, suggesting the importance of considering the geographical and historical context in value creation studies (Scholz & Schneider, 2016). While we focused on Europe, the findings might not apply in other regions like Latin America, where different regulatory environments could influence outcomes.

Methodologically, we did not fully apply Grounded Theory but used abduction and retroduction within a critical realist grounded theory framework (Hoddy, 2019; Oliver, 2012). Future research could test this approach in different contexts and explore integrating critical realism, which recognises an objective reality beyond human perception (Bhaskar, 2010; Mingers et al., 2013), with grounded theory to study topics like the role of artificial intelligence in creating social value. This might include a combination of human interpretation and advanced computational methods for a comprehensive analysis (Berente et al., 2019).

Our study underlines the social value of DPCs but raises questions about their long-term sustainability and profitability, given their reliance on volunteer members. We did not investigate the economic sustainability of these cooperatives, a critical area for future research. Future studies should explore how DPCs can address challenges to establish a sustainable economic model, potentially through innovative funding, operational efficiencies, and strong business strategies that support their social goals. This would help understand how to sustain social value creation in cooperatives.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the first author upon reasonable request.

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APPENDIX A

TABLE A1 Details of the interview (Part A).

ID	Country	Area of expertise	Type of interviewee	Duration (hh:mm)
I-01	Italy	Tourism	Founder	00:56
I-02	Italy	Mobility	Founder	00:49
I-03	United Kingdom	Tourism	Strategist	00:51
I-04	United Kingdom	Multisector	Operations Specialist	01:09
I-05	Italy	Multisector	Strategy Developer	01:30
I-06	Croatia	Tourism	Employee	00:58
I-07	United Kingdom	CivTech	Founder	00:48
I-08	Germany	Information technology	Founder	00:45
I-09	Spain	Mobility	Member and Mentor	00:57
I-10	Italy	Creative industries	Employee	01:19
I-11	Poland	Multisector	Development Officer	00:58
I-12	Netherlands	Information technology	Founder	00:51
I-13	Spain	Food industry	Specialist	01:01
I-14	Italy	Mobility	Operations Specialist	00:49
I-15	France	Food industry	Founder	00:36
I-16	Belgium	Creative industries	Employee	01:15
I-17	United Kingdom	Food industry	Founder	00:44
I-18	United Kingdom	Multisector	Community Manager	00:56
I-19	Germany	Information technology	Employee	00:50
I-20	Germany	Food industry	Co-op Strategist	00:54
I-21	Spain	Healthcare	Founder	00:44
I-22	Germany	Creative industries	Strategy Developer	00:37
I-23	United Kingdom	Information technology	Member	00:46
I-24	United Kingdom	CivTech	Strategic Director	00:48
I-25	Italy	Tourism	Employee	01:17
I-26	Spain	Multisector	Operations Manager	00:39
I-27	Germany	CivTech	Employee	00:48
I-28	Switzerland	Food industry	Member	00:55
I-29	United Kingdom	Information technology	Founder	01:02
I-30	Spain	Multisector	Co-op Developer	00:38
I-31	Belgium	CivTech	Development Officer	00:46
I-32	Netherlands	Information technology	Founder	01:06
I-33	Macedonia	CivTech	Founder	00:46
I-34	Spain	Education	Specialist	00:41
I-35	Belgium	Food industry	Member	00:52
I-36	Ireland	Food industry	Member	00:40

TABLE A2 Details of the interview (Part B).

Sector	Belgium	Croatia	France	Germany	Ireland	Italy	Macedonia	Netherlands	Poland	Spain	Switzerland	UK	Total
Civic Tech	1			1			1					2	5
Creative industries	1			1		1				1			3
Education										1	1	1	1
Food	1		1	1	1					1			7
Healthcare												2	1
IT				2				2					6
Mobility						2				1			3
Multisector						1			1	2		2	6
Tourism		1				2						1	4
Total	3	1	1	5	1	6	1	2	1	6	1	8	36

TABLE A3 Exemplar case vignettes.

COOP 30 vignette—Online marketplace	
Representative quotes	"*In our platform, users and local communities play a fundamental role in defining the rules and decisions concerning the platform itself.* […] *Collaboration and interaction* [*among stakeholders*] *allow for the creation of a sustainable and responsible ecosystem that respects the needs of everyone*." (I-30) "*When I joined, I just had a small idea and a hope to make a difference. I didn't expect to find myself* [*in*] *this vibrant community* […] *shapes the marketplace we all rely on. It's been eye-opening, the workshops and discussions around our governance structure etc, the way we make decisions together… it's* [*democracy*] *in action, truly.* […] *I've learned so much about* […] *cooperative leadership, and now I feel confident contributing to our direction. It's not just about selling products; it's about owning and growing* […] *together.* […] *collective knowledge turn into meaningful decisions*." (I-30)
Events and practices (codes)	Enhancing awareness of cooperative governance and decision-making processes
Outcomes (categories)	O1: Strengthening community capacities *Memo: Enhancing Community Abilities and Skills—Core of O1* • As we delve into the data from COOP 30, we noted that "Enhancing community abilities and skills" is crucial. It is crucial as it signifies a holistic empowerment approach, equipping both individual sellers and the collective membership with the tools, knowledge, and ethical guidance needed for the marketplace's success. • There are items extracted out from coding that can be highlighted, such as nurturing entrepreneurial acumen among sellers, fostering a shared learning environment for best practices, boosting technological fluency to leverage the platform's features, and embedding a culture of ethical business conduct in line with their fair trade values. • This empowerment could extend—depending on existing literature—to cultivating leadership and governance capabilities through active democratic engagement, ensuring that all members contribute to the co-op's transparent and accountable framework.
Generative mechanisms	GM1: Collective identity and empowerment *Notes on theorisation of GM1* (*GM1 leads to O1*) • In analysing Co-op 1, we're seeing a dynamic blend of establishing a shared cooperative identity, participatory decision-making, and data management centred around community benefit. This captures the transition from individual empowerment to collective action, with members engaging in the co-op's governance to uphold fairness and be able to resist the monopolistic tendencies seen in traditional platform economies. • We're encapsulating terms like 'collective identity cultivation', 'democratic inclusivity', and 'data sovereignty', which reflect the co-op's commitment to a decentralised, member-driven marketplace that challenges existing power structures and champions a cooperative value ecosystem. GM2: Institutional commitment and policy support *Notes on theorisation of GM2* (*GM2 leads to O1*) • COOP30's successful engagement with local governments and institutions has been instrumental in providing a robust infrastructure and supportive policies that underpin their community empowerment initiatives. • Through the analysis, we have noted that strategic government collaboration not only enhances the platform's operational capacity but also solidifies the COOP30's commitment to a fair and transparent marketplace. • So, GM2 is not only about government support in isolation but about the synergy it creates with GM1, leading to a strengthened community capable of fostering a cooperative-centric economy. • As such, the development of a sustainable ecosystem—their commitment to democratic principles and fair trade—showcases the effective activation of GM2 alongside GM1, which demonstrates their collective impact on enhancing community capacities within the cooperative framework.
	CC1: Grassroots mobilisation and advocacy

(Continues)

TABLE A3 (Continued)

COOP 30 vignette—Online marketplace	
Contextual conditions	*Notes on contextualisation of GM1* • In examining COOP 30 alongside analysing other co-ops against theories/literature, grassroots mobilisation and advocacy emerge distinctly as a critical CC that activates GM1. • We note that cooperative's foundation in community-led actions and digital activism is a primary force sparking off a sense of shared identity and democratic engagement among members. This condition, characterised by a strong commitment to ethical practices and financial sustainability, underpins COOP 30's growth as an ethically oriented marketplace. • We consider these grassroots efforts, evidenced in narratives like "*we're just trying to achieve the market niche of being ethical*" (I-30) and the strategic funding choices that keep away from traditional venture capital, highlight the participatory ethos essential for forging a cooperative identity that is deeply rooted in community values and empowerment. • These elements lay the groundwork for a robust and member-centric cooperative ecosystem that distinguishes COOP 30 as a model for ethical e-commerce.
COOP 14 vignette—Mobility (bike delivery)	
Representative quotes	"*The capitalist sharing economy sometimes feels like a race, and not everyone starts at the same starting line. Those with familial or other commitments, you know, are often left behind. That's why our 'design-for-solidarity' approach is so good. It levels the playing field for everyone.*" (*I-14*) *I've seen how sharing resources and knowledge* [*across*] *our network isn't just practical, it's transformative. We're not just sharing* [*cost-saving*] *tips; we're creating solidarity across Europe. For instance, the insights we gained from our partners in Barcelona directly influenced how we improved our* [*routes*] *elsewhere. This collaborative spirit is our core.* [...] *it goes beyond efficiency. It's about nurturing a sense of unity and support* [...] *who believe in the co-op model.* (*I-14*)
Events and practices (codes)	Promoting solidarity through shared resources and knowledge in diverse DPC projects
Outcomes (categories)	O2: Federating cooperative ventures *Memo*: *Creation of a federated network with shared resources and advocacy—Core of O2* • In coding the data related to COOP14, the emergence of a federated network of co-ops, denoted as Outcome 2 (O2), is particularly salient. This aspect of the federation is characterised by the unification of diverse, localised delivery co-ops under a single platform to leverage collective resources. • Key terms extracted during memoeing include resource pooling, cost reduction strategies, collective bargaining, and unified advocacy, all of which are instrumental in shaping a resilient network that is capable of advocating for couriers' rights more effectively. • COOP14 exemplifies this outcome by its cooperative members' shared use of a common platform for managing deliveries and the development of joint business offerings. This collective approach helps individual co-ops to achieve economies of scale, negotiate better terms with vendors and partners, and raise their voice in the larger conversation about labour rights etc.
Generative mechanisms	GM2: Institutional commitment and policy support *Note on theorisation of GM2* (*GM2 leads to O2*) • We note down local government support with cooperative action when coding and theorising. It plays an important role in the actualisation of COOP14's federated network. • The quote highlights how strategic government policies and investments create a fertile ground for COOP14's growth, which fosters an environment where digital innovation and cooperative principles thrive in tandem. • Key terms such as 'public procurement', 'digital infrastructure', and 'sustainable practices' have emerged from coding and theorising (against literature/theories). They capture the nature of this symbiotic relation. • This support illustrates a reciprocal growth model, where the cooperative's digital advancements and governmental strategic alignment synergise to enhance the co-op's economic and social influence, and in turn, the very co-op's success underpins the local government's commitment to a sustainable and socially responsible economy.

TABLE A3 (Continued)

COOP 14 vignette—Mobility (bike delivery)	
Contextual conditions	CC2: Institutional commitment and policy support *Note on contextualisation of GM2* • The coding has uncovered a symbiotic partnership where governmental engagement is integral, not just at the policy level but in making cooperative's digital and community-driven endeavours. • We noted some ideas such as "strategic policy alignment", "governmental engagement", and "regulatory enforcement" etc. which surface from the data and which emphasise the dual impact of governmental actions that reinforce and are reinforced by cooperative ventures. • This finding delineates a nurturing environment orchestrated by policy support, which catalyses the growth and resilience of DPCs like COOP14, aligning with the broader objectives of a cooperative-centric digital economy.