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Gestão e Governança

Cooperativismo de plataforma como alternativa ao desenvolvimento econômico pós-Covid-19: evidências do Brasil

Platform cooperativism as an alternative to post-Covid-19 economic development: evidence from Brazil

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RESUMO

A pandemia de Covid -19 transformou significativamente a população mundial ao acelerar as mudanças sociais, econômicas, de mercado e tecnológicas. Nesse contexto, a economia compartilhada tem promovido modelos de negócios alternativos, que transcendem o capitalismo tradicional em um movimento digital disseminado por indivíduos, comunidades e plataformas que aproximam organizações, consumidores e fornecedores. Nosso estudo tem por objetivo identificar e mapear como plataformas digitais baseadas em princípios cooperativos podem desenvolver a economia compartilhada. Desenvolvemos pesquisa qualitativa exploratória utilizando a netnografia como procedimento metodológico. Primeiramente, discutimos a economia compartilhada baseada em plataformas digitais que fomentam a cooperação. Em seguida, descrevemos como o cooperativismo de plataforma pode ser uma alternativa ao ethos individualista da economia compartilhada. Por fim, discutimos alternativas com impactos sociais e econômicos para solucionar problemas de emprego e renda após a pandemia de Covid-19. A pesquisa contribui para as diversas iniciativas e aplicações cooperativas emergentes em um país em desenvolvimento.

Palavras-chave: Plataformas digitais; Cooperativismo; Cooperativa de plataforma; Covid-19; Compartilhamento

ABSTRACT

The COVID-19 pandemic has significantly transformed the world's population by accelerating social, economic, market, and technological changes. In this context, the sharing economy has promoted alternative business models that transcend traditional capitalism in a digital movement disseminated by individuals, communities, and platforms that bring organizations, consumers, and providers together. Our study aims to identify and map how digital platforms based on cooperative principles can develop



the sharing economy. We developed exploratory qualitative research while using netnography as a methodological procedure. First, we discuss the sharing economy based on digital platforms that foster cooperation. Second, we describe how platform cooperativism can be an alternative to the individualistic ethos of the sharing economy. Finally, we discuss alternatives with social and economic impacts to solve employment and income problems after the Covid-19 pandemic. The research contributes to the various initiatives and cooperative applications emerging in a developing country.

Keywords: Digital platforms; Cooperativism; Platform cooperative; Covid-19; Sharing

1 INTRODUCTION

The COVID-19 pandemic has significantly transformed the world's population by accelerating social, economic, market, and technological changes. The pandemic has made us to project an uncertain future, forcing the creation of new solutions for individual and collective survival (Hossain, 2021). While new forms of production emerged, a digital transformation of the economy and business was seen. On the other hand, Information and Communication Technologies (ICTs) can offer ample opportunities to organizations, facilitating the expansion and supply of products and services, as well as adapting the relationship between consumers and service providers (Gargallo Castel; Pérez Sanz, 2009). Although we have experienced a digital transformation in the past, the pandemic promoted an acceleration in this process, while re-signifying social, economic, and marketing behaviors (Dwivedi et al., 2020). The sharing economy, supported by digital platforms, was strengthened, and brought organizations, consumers, and providers together (Falcón Pérez; Fuentes Perdomo, 2019).

However, the literature does not analyze in-depth the cooperative platform-related factors surrounding COVID-19 in which diverse perspectives and impacts can be assessed (Bunders et al., 2022; Dwivedi et al., 2020). The sharing economy (SE) promotes alternative business models, which transcend traditional capitalism in a digital movement disseminated by individuals, communities, and platforms (Hossain, 2021). From this perspective, basic activities comprise consumption, production, learning and finance through sharing practices (Benkler, 2017). Thus, the concept

of sharing economy business model is based on the activities developed by digital platforms (DP) that mediate and support collaborative actions between consumers and service providers (Harvey et al., 2017). The platform works as a digital intermediary facilitating the contact and collaboration between service providers and users.

Researchers have seen the sharing economy as a potential to transition from a consumer society to a productive model capable of reducing environmental impacts and social inequality (Sandoval, 2020). New sources of income can foster solidarity and regenerate communities through collaborations and cooperations (Foramitti et al., 2020). Nevertheless, for Martin et al. (2017), digital platforms in the sharing economy have been criticized for their public discourse of giving power to users, which cannot be considered true. Digital platforms (DP) are defined as visible and invisible solutions that include websites, blogs, virtual message networks, mobile apps and social networks with texts, images, and videos for the rapid sharing of information, products, and services (De Reuver et al., 2018).

On the one hand, most business models based on digital platforms focus on the economy rather than social, environmental, and collaborative aspects (Sandoval, 2020; Schor, 2020). On the other hand, as an alternative to economy-focused platforms are cooperative platforms with more democratic, equitable and participative governance (International Cooperative Alliance [ICA], 2020). Cooperatives encourage social solidarity and show alternatives that can inspire collective action and social change (Schneider, 2018). The movement of platform cooperatives integrates a new era of traditional cooperativism (Foramitti et al., 2020). This disruptive cooperative model calls for a "type of internet with fairer interactions", based on governance and shared ownership between platforms, cooperatives, and consumers (Sandoval, 2020; Scholtz; Schneider, 2020). Platform cooperatives accommodate sustainability values in their governance system while balancing autonomy and collaboration through community and cooperative relations (Foramitti et al., 2020; ICA, 2020; Scholtz; Schneider, 2020; Schneider, 2018).

Cooperation must be understood in a socio-technical logic that influences collaborative practices between consumers, suppliers, technologies, and entrepreneurs (Schneider, 2018; Schor, 2020). In addition, democratization associated with collaborative, sharing and innovation practices makes the academic and managerial environment open to new proposals to give a better understanding of recent socio-technological phenomena (Hossain, 2021). Therefore, our research question is: How do cooperative movement organized in the sharing economy context through digital platforms? In this sense, our study aims to identify and map how cooperative movement can develop in the sharing economy context based on the digital platforms. Thus, our study contributes to the literature differently. First, we further the discussion of the sharing economy based on digital platforms that provide cooperation. Second, we describe platform cooperativism as an alternative to the individualistic ethos of the sharing economy, as with rivaling companies such as Amazon, Uber, and Airbnb (Sandoval, 2020; Schneider, 2018). Third, we discuss social and economic initiatives that proved to be alternatives for employment and income problems after the Covid-19 pandemic.

The next three conceptual sections define the cooperative movement, cooperatives, the sharing economy, digital platforms, and platform cooperatives. The exploratory qualitative methodology through netnography is presented as the methodological procedure. Next, we describe the Brazilian platform cooperative initiatives that are in operation, development and under construction. Finally, a discussion is conducted based on the results, in addition to the considerations, limitations of the study and implications for future research.

2 COOPERATIVISM AND COOPERATIVES

Cooperativism is noted over time as a powerful tool for development and crisis coping because of its high capacity for adaptation and evolution. In Farias and Gil's (2013) approach, cooperativism can be understood as a set of economic and social precepts, based on people, solidarity, equality, freedom, democracy, and rationality.

All participants must be committed with this collective initiative, so that it can succeed and achieve the common good (Rambo; Arendt, 2012; Sistema Ocergs - SESCOOP, 2021). The core of the cooperative movement is characterized by the values of mutual help and equality of rights and duties (Farias; Gil, 2013).

A cooperative entity, as described by the International Cooperative Alliance (ICA, 2020), is built with an autonomous association of voluntarily united people to meet common, economic, social, and cultural needs through an institution that is jointly owned and democratically managed by all associated members. Paré (2009) argues that cooperative organizations have a social nature (society of people) and an economic nature (company and/or capital organizations).

In Brazil, the General Law of Cooperativism (Brazil, 1971) describes the cooperative institution as a civil society, with its own legal form, made by people who reciprocally contribute with goods or services for an economic activity of providing services aimed at serving its associates, with no profit objective and not subject to bankruptcy. Therefore, Brazil is home to a solid tradition of rural cooperatives and of the "solidarity economy" movement of the 1990s, in which multiple bankrupt factories were recovered (Silva; Morello, 2021).

Brazilian Cooperativism is developed intuitively basing its trajectory on ethical and moral values and principles. These intuitive models guided cooperation practices formalized as cooperative societies (de Miranda; de Miranda, 2021). Literature signals the first experiences of Brazilian cooperativism in the end of the 19th century, with the creation of the Associação Cooperativa dos Empregados in the city of Limeira-SP (1891) and the Cooperativa de Consumo de Camaragibe in Pernambuco (1894). In 1902, the first experiences of rural boxes of the Raiffeisen model appear in the state of Rio Grande do Sul. In 1907, the first agricultural cooperatives are created in the State of Minas Gerais (Silva et al., 2003). In the first half of the 20th century, agricultural cooperatives were consolidated by rural producers and by Italian and German immigrants in Southern Brazil (de Miranda; de Miranda, 2021). Nowadays, Brazilian cooperatives are organized in 7 sectors (agriculture, consumption, credit, infrastructure, health, transportation, labor, production of goods and services).

However, online platforms are much more recent, and no agreed-upon definition exists now (Bunders et al., 2022). Technological advances are not without controversy due to the balance between their positive and negative effects in an economic and social context (Silva; Morello, 2021). In addition, the pandemic context of Covid-19 that started in 2020 made the phenomenon of work platformization evident (Abílio *et al.*, 2021; Howson *et al.*, 2020).

Worker cooperatives aim at both compliance with cooperative principles of "cooperativism" and economic efficiency (Bunders *et al.*, 2022). Therefore, this study aims to map such initiatives of platform cooperatives considering the assumptions, structures, and segments in the movement of the sharing economy.

3 SHARING ECONOMY AND DIGITAL PLATFORMS

The sharing economy (SE) can represent a way to overcome the lack of public services and to stimulate initiatives to solve problems experienced by local communities (Gurău; Ranchhod, 2020). Essentially, platforms are interaction ecosystems that can be seen as a specific category of social spaces and can exponentially expand the interaction between people (Eckhardt et al., 2019). In addition, the products, services, or solutions offered in the context of the sharing economy are based on diversified relationships, which integrate economic activities into the social fabric and create new communities and business models (Falcón Pérez; Fuentes Perdomo, 2019).

SE is considered an opportunity to transform the way traditional businesses are conducted through digital platforms (Ertz; Boily, 2019; Hossain, 2021). Sharing practices emerge as good alternatives for consumers, providers, and entrepreneurs, accommodating social, economic, and marketing concerns (Dwivedi et al., 2020). More than 17 industries and 47 sub-industries of on-demand services (We Work), transportation (Uber), hosting (Airbnb) and food delivery (Uber Eats, iFood and

Rappi), with 165 different businesses work with this platform logic (Hossain, 2021). These platforms have become major conglomerates, creating direct and indirect jobs for millions worldwide (Martin et al., 2017). However, the operation of these digital businesses favors the concentration of ownership, in which large companies supported by platforms shape the expansion of investments and labor relationships (Schor, 2020).

Digital platforms are becoming owners of society's infrastructure, where there are strong trends in the monopolization of economic activities (Sandoval, 2020; Schor, 2020). Digital platforms are characterized by digital technological artifacts such as websites, blogs, virtual messaging networks, mobile applications, social networks with texts, content, images, and videos, such as applications of Android and IOS systems for the rapid sharing of information, products, and services (Eckhardt et al., 2019). In this study, the authors adopt a broad definition of digital platforms that is based on a community-based economy and multifaceted platforms that offer users temporary access to tangible and intangible resources (Gil de Gómez Pérez-Aradros; Imaz Montes, 2022; Silveira et al., 2021).

On the other hand, COVID-19 pandemic has forced organizations to transform their business policies following the changing scenario (Dwivedi et al., 2020). In this sense, the pandemic affected all businesses, including those based on a platform logic. For example, platforms for transportation, meal delivery, product delivery and more (Hossain, 2021). This was enhanced in general due to the lower cost, ease of use, agility in interaction and popularity of platforms among consumers, providers, entrepreneurs, and the community (Sandoval, 2020). In addition, technologies have accelerated the processes of exchange, interaction and sharing between digital communities by providing a sense of questioning about their role in this collaboration and sharing in search of social well-being (Silveira et al., 2021). This scenario has made the conditions of platform workers more visible (Graham; Anwar, 2019) and led to the emergence of solidarities and collectivities (Soriano; Cabanes, 2020) in the scope of work, with a central role for social media and networks (Sandoval, 2020; Schor, 2020).

In this sense, the debate on the development of cooperatives organizing economic activities in platform capitalism emerges as a means of accommodating the classification of providers or suppliers as autonomous workers (Schor, 2020). In addition, current technologies are structured to deliver products and services as simply, democratically, and transparently as possible, intensely and focused on experience, personalization, relevance and added value (Aldrich, 2014). Therefore, it is observed that the sharing economy and technological agents (DP) that are part of this environment lead to a disruptive innovation of transformation in the world market and economies (Martin *et al.*, 2017).

These principles largely correspond to the so-called cooperative principles, which in turn are inspired by the rules of associations, participation, cooperation, and collaboration (Bunders *et al.*, 2022;). These principles are structurally present in the classic entities of the social economy. Many are also present in other entities with which they share objectives, forms of organization and patterns of self-managed behavior in a voluntary, solidary, participative, and cooperative way (Gil de Gómez Pérez-Aradros; Imaz Montes, 2022; Silva; Morello, 2021). The innovations delivered by these platforms are disseminating behavior changes in society and business while developing a more balanced, collaborative, cooperative and sustainable economy (Bunders et al., 2022; Silva; Morello, 2021).

4 PLATFORM COOPERATIVE

The cooperative economic model is associated with aspects such as: voluntary and open membership; Control of democratic members; Economic participation of members; Autonomy and independence; Education, training, and information; Cooperation between cooperatives and Concern for the community (ICA, 2020; Scholtz; Schneider, 2020). Beyond this Scholtz (2016) drew on ICA (2020) principles to propose 10 platform cooperativism principles: Collective member-based ownership;

Decent pay and income security; Transparency and data portability; Appreciation and acknowledgement; Co-determined work involving workers; Protective legal framework; Portable worker protections and benefits; Protection against arbitrary behavior; Rejection of excessive workplace surveillance; Right to log off.

From the perspective of platform cooperatives, the actors are essential to build an enterprise, whose main objective is to promote the economic development of its members in a participatory way (Scholtz, 2016). Despite all the differences in time, practice, and context, platform cooperative shares with traditional cooperativism a belief in social transformation through the expansion of small alternative projects from the bottom up, rather than claiming political and economic power (Sandoval, 2020; Silva; Morello, 2021). A platform cooperative is different from traditional capitalist platforms (Bunders et al., 2022). While the latter's main objective is to make the business produced through a central power, the focus of a cooperative model is the direct benefit that is defined and approved by its participants (Bunders et al., 2022; Scholtz, 2016).

In other words, the concept of "platform cooperativism" differs from the traditional concept of capitalist platform as follows: 1) It adds genuinely democratic values, with the change of ownership of platforms in the cooperative format; 2) Encourages work collectives, denying the idea of a massive and anonymous workforce; and 3) Concepts such as innovation and efficiency are re-signified for the benefit of all, and not the appropriation of profits for only a few intermediaries (Sandoval, 2020). Benkler (2017, p. 94) states that, platform cooperativism can be favored because of its counterpoint to platform capitalism, the moment being conducive to cooperation between people and technologies, and the increasing search for collaborative experiences of production and consumption.

Platform cooperativism is not a mere return to non-commercial forms in the sharing logic, which occur since the spread of the Internet (ICA, 2020), but rather commercial forms with other cooperative values and assumptions (Schneider, 2018). However, this model aims to eliminate the intermediaries and develop strategies that can distribute in a more balanced way the income generated by the business (Foramitti et al., 2020; Sandoval, 2020). Platform cooperativism emerges as a response to work and sharing consumption to democratize participation in actions, promotions, income, and consumption moderations in a commercially balanced way (Foramitti et al., 2020; Schneider, 2018).

While the platform cooperativism offers a much-needed alternative to the traditional sharing economy, it also raises questions about what social change is facilitated. National examples arise, such as the cooperative of the Porto Alegre taxi drivers' union in opposition to the Uber mobility model, Caronâe App of students from the Federal University of Rio de Janeiro, VouBem of app-based drivers from Maringá, in the state of Paraná, and Cataki of waste pickers from São Paulo (Mendes, 2020). For Sandoval (2020), this type of initiative provides a sense of community and solidarity by developing a practical alternative to traditional platforms. Therefore, in many ways, digital platforms and solutions can be associated with cooperativism, thus eliminating the distinction between workers and owners by offering an alternative to the sharing economy (Falcón Pérez; Fuentes Perdomo, 2019; Scholtz, 2016; Schor, 2020).

Democratic ownership and governance are pillars of platform cooperativism (Scholtz; Schneider, 2020), along with principles of social responsibility, positive impact, and open technology (Bunders *et al.*, 2022). The platform cooperative raises questions about the social change derived from digital platforms (Gil de Gómez Pérez-Aradros; Imaz Montes, 2022). These questions are also necessary to study how techno-capitalism works, as it shapes and amplifies the needs and desires of consumers and suppliers of products and services (Kozinets *et al.*, 2017; Parker et al., 2016). Therefore, platform cooperatives emerge as potential alternatives for business that can inspire collective, sharing, and collaborative action for social change focusing on sustainable post-Covid-19 economic development (Gil de Gómez Pérez-Aradros; Imaz Montes, 2022).

5 IMPACTS OF COVID-19 PANDEMIC ON SOCIAL AND ECONOMIC MOVEMENTS

The COVID-19 pandemic has forced many workers, organizations, and markets to undergo significant transformation, rethinking key elements of their business and transaction processes and use of technology to maintain operations whilst adhering to a changing landscape of guidelines and new procedures (Dwivedi *et al.*, 2020). In this period, long-term economic and cultural impact of the rapid migration to digital stemming from the pandemic is unknown. Researchers have offered extensive analysis on many aspects of the transformation implications of COVID-19, both from a cultural and societal perspective and technological and economic perspective (Hossain, 2021).

In this context, the COVID-19 pandemic resulted in a major remodeling of the way people carried out their personal, work, financial and property routines, and projects (Echegaray, 2021). These measures caused a "social recession" as they brought face-to-face inter-personal interaction to its minimum expression, except among other household members, with social, labor, and consumption connections eventually migrating to the internet-mediated online sphere (Gil de Gómez Pérez-Aradros; Imaz Montes, 2022).

This process affected the sharing economy and collaborative consumption, once reusing, repairing, or sharing goods with others is equated to a potential source of contagion (Hossain, 2021). Consequently, the global health crisis has had profound impacts around the globe, causing devastating job losses, instability, poverty, and social and economic turmoil (Howson et al., 2020). Covid-19 has prompted firms, consumers, and service providers to think about their services differently, and many have adopted collaborative and cooperative strategies to mitigate the effects of Covid-19 (Bunders et al., 2022; Hossain, 2021).

Covid-19 has further eroded gig workers' already tenuous financial and physical security, whilst also demonstrating the essential nature of the work they perform (Howson *et al.*, 2020). These conditions highlight the core issue of the misclassification

of platform workers as independent contractors that have no access to employment rights or benefits (Echegaray, 2021; Gil de Gómez Pérez-Aradros; Imaz Montes, 2022). These experiences go through collectives, associations and cloud service cooperatives, photographers, musicians, journalists, games, music streaming platforms, audiovisual, couriers, self-employed workers, drivers, etc. (Bunders *et al.*, 2022). Therefore, the Covid-19 pandemic impacted directly social and economic movements to improve new forms of sharing, collaborative, and cooperative products, services, and labor (Echegaray, 2021).

6 METHODOLOGY

We conducted exploratory research that we use netnography procedures with 21 worker initiatives in Brazil. In Brazil, the south and southeast regions of the country are exponent of cooperativism and digital commons (Grohmann, 2022). The research strategy chosen for this study is the research of exploratory qualitative nature. For Saldaña (2015), qualitative research is suitable to describe the complexity of a problem in a real context, e.g., to understand dynamic processes with multiple evolving variables.

In this article, in an effort close to that of Davis and Xiao (2021), we aim to present in the global south perspective studies across platforms, showing that cooperatives and collectives do not emerge in the same way everywhere. And this is not a symptom of greater development in each location when compared to another. The proposed discussions aim to explore the phenomenon of platform cooperatives by identifying, mapping, and describing these current alternatives in the Brazilian context.

The methodological procedures used in this exploratory research involved the application of virtual data ethnography to better know the topic of platform cooperatives and to map existing and developing initiatives online. The application of a nethnographic methodology in online spaces represents an important step toward understanding new phenomena that are produced through digital technologies (de Rivera *et al.*, 2017). However, with the need to adapt and update ethnographic

methods for the digital environment, there are specific characteristics of online social interactions that need to be considered. Therefore, the method known as netnography was used, which collected data through digital and online tools (Kozinets, 2014).

In the netnographic research, data is collected through online interactions, using technological devices and the Internet (Kozinets, 2014). According to Noveli (2010), the netnographic method allows market researchers to study the subcultures developed by the Internet or through mobile applications. For example, a user of a platform or application can observe, interact, consult, analyze and verify data with other people who use, research, study or consume the same content, thus setting a specific group that participates or research the nature of the analyzed phenomenon.

Archival data were collected from community members on social media Facebook, WhatsApp, Instagram, and Linked in. No researcher intervention or stimulation occurred towards the object of study, but through the capture of images, information and contents from each platform analyzed. The data were extracted by the researchers and the members of the communities analyzed (articles, websites, and message exchanges through the messaging applications).

The nethnographic protocol, therefore, allowed us to transform qualitative observations into quantitative data. In other words, by studying the embedded design and the types of technologically mediated 'doing' that occur on a collaborative consumption platform, we can understand about collaboration, sharing, and cooperation in platforms, or what authors such as De Rivera et al. (2017) refer to as a type of reverse engineering (online consultations, mappings, extractions, observations, and interviews).

6.1 Mapping Cooperatives Platforms

To understand how platform cooperatives emerged and were organized in the context of a developing country in the global south, research was made in electronic media (2 portals), television (2 channels), radio (2 broadcast radio), and specialized

magazines (3) from October 2020 to October 2021. In a second stage, the researchers analyzed and listed recent articles on the Web of Science and Scopus databases whose topic (title, abstract or keyword) included the terms "digital platform" OR "sharing economy platform" OR "cooperative platform" OR "platform cooperativism." This search was performed in October 2022 and collected 101 peer-reviewed articles on Scopus and 208 on the Web of Science database, totaling 309 articles. In the third stage, online consultations, mappings, extractions, and observations were carried out on websites, social networks, messaging applications by people involved with platform cooperatives in the local, regional, and national context on Instagram and portals, for example.

We then followed a thematic literature analysis and coded the main topics explored in the 42 articles (platforms cooperative). The topics emerged during the analysis and described the main themes and empirical objects of these articles. In relation to electronic media, many of the existing articles on the topic of platform cooperatives highlight the existing sharing or capital platforms such as Uber, Airbnb, iFood, Rappi, 99Food, etc., as alternatives. There were more than 758 posts on the subject, with Conecta.me, DigiLabour and MundoCoop (2021) being the most active websites. In addition to these portals, groups were mapped on Facebook, Instagram, and LinkedIn under the topic platform cooperative.

The mappings of data researched, extracted, and consulted in online observations show that the domestic market is a fertile ground for initiatives such as platform cooperatives. For the job and income generation during the Covid-19 pandemic period, such alternative arrangements emerged through social, union, collective, educational, corporate and government movements. There are currently several initiatives in progress and eight in operation. For Grohmann (2022), there are many contradictions between the capitalist movement and the platform cooperative. However, many initiatives result from a collective, collaborative, and cooperative work supported by market logic and provides mostly job opportunities, income, and improvements in the

business relationships of deliverers, drivers, artists, housecleaning, teachers, doctors, masons, motorcyclists, cooks, photographers, artisans, and researchers.

The ease of access and the democratization of digital services through smart phones, social networking platforms, messaging applications, social media, integration applications help these professionals to connect with the cooperative spirit even though the vast majority are not formally legal (DigiLabour, 2020). The case studies are platform organizations established according to the shared ownership model, the focal point of the cooperative platform concept (Bunders et al., 2022). The selection of cases followed the indications of Eisenhardt (1989) and was based on empirical theoretical reasons, as the cases were chosen to extend the emerging theory. Therefore, this study mapped platform cooperative initiatives (frame 1) in three categories: (a) 12 initiatives in operation; (b) 07 initiatives under development; and (c) 02 initiatives under construction.

Frame 1 – Platform cooperative initiatives

a) Platform cooperatives in operation	b) Developing platform cooperatives	
Somos.Ciclos: Information of Somos. Ciclos on the website:	Señoritas Courier: Details on	
https://ciclos.coop.br/.	https://www.instagram.com/senoritas_courier/	
Cataki: Details available on the website:	TransEntrega: more information on Instagram:	
https://www.cataki.org/pt/	https://www.instagram.com/trans.entrega/	
Sicredi na Comunidade [Sicredi in the Community]:	Puma Entregas: Contact on Instagram:	
More information at: https://sicredinacomunidade.com.br/	https://www.instagram.com/pumaentregas/	
	Levô Courier: Details on Facebook:	
Caronaê: Details at: https://caronae.org/index.html#top	https://www.facebook.com/levocourier	
Liga by Comobi: Details on	Des.pa.tro.na.dos: Details at:	
https://www.facebook.com/ligabycomobi/	https://despatronados.wixsite.com/cooperativa.	
	Contrate Quem Luta - [Hire those who fight]:	
Pedal Express: Details on http://www.pedalexpress.com.br/.	https://contratequemluta.com/.	
AppJusto: More information on the website:	ContratArte: Details available on	
https://appjusto.com.br/.	https://www.contratarte.art.br/.	
Coomappa (Application Drivers' Cooperative of the City		
of Araraquara/SP): More information on		
https://www.instagram.com/cooperativa.araraquara/	c) Platform cooperatives under construction	
	SafeDelivery: More details are available on the Facebook	
VouBem: Details on website http://www.Voubem.com.br	page: https://www.facebook.com/safecooperativa/	

Source: Authors (2023)

Table 1 presents the main information of the cooperatives, including activities, characteristics, and the location of headquarters and operation. Twenty-one cooperatives with different activities in different economic sectors were consulted. The possible cases of analysis were filtered following the recommendation of specialists to exclude the cooperatives and collectives that are still looking for forms of technological construction.

Table 1 - Cooperatives and collectives

Platform/	Founda-		Head office / places of
Cooperative	tion date	Main activities/Characteristics	operation
AppJusto	2020	Developers and designers from the technology market.	São Paulo and Rio de Janei- ro states
Buscar Express	1999	Cooperative of motorcycle freight forwarders in the fast delivery segment.	Porto Alegre and Metropolitan area / RS
Caronaê	2016	Carpooling.	Rio de Janeiro-RJ
Cataki	2017	Recycling, bringing collectors of recyclable materials closer to the generators of this waste.	1,500 municipalities in Brazil
ContratArte	2021	Services of artists, actors, producers, and musicians.	Rio Grande do Sul state
Contrate Quem Luta	2019	Provision of various services by the Homeless Workers Movement.	Greater São Paulo-SP
Coomappa	2021	Passenger transport - Ride drivers apps	Araraquara-SP
Coopama	2021	Passenger transport - Ride drivers apps	São Carlos-SP
Despatronados	2020	Motorcycle Delivery service	Rio de Janeiro and São Paulo
Levô Courier	2019	Bike delivery services	Porto Alegre - RS
Liga By Comobi	2021	Passenger transport - Ride drivers apps	Caxias do Sul, Gramado, and Passo Fundo - RS
Pedal Express	2010	Bike delivery services	Porto Alegre-RS
Puma Entregas	2020	Bike delivery services	Porto Alegre-RS
Plataforma	2020	Service by plumbers, masons, lock- smiths, and construction assistants	Bahia state
de Trabalho De- cente			
SafeDelivery	2020	Bike and Motorcycle delivery service	Curitiba - PR
Señoritas Courier	2018	Bike delivery services hosted by women and LGBTQIA+	Greater São Paulo-SP
Sicredi na Comu- nidade	2018	Support and sponsorship of projects and actions to benefit self-employed communities and cooperatives.	The entire Brazilian national territory
SmartCoop	2021	Management of agricultural production cooperatives and rural properties	Rio Grande do Sul state
Somos Ciclos	2018	Telephony, health, homecare, and energy services connect specialists and cooperative members	Headquarters in Vitória-ES, working in the entire Brazil- ian territory
TransEntrega	2020	Bike delivery services hosted by women and LGBTQIA+	Greater São Paulo-SP
VouBem	2020	Ride drivers' apps	Maringá - PR

Source: Authors (2023)

Except for Pedal Express (founded in 2010) and Busca Express (founded in 1999), all other initiatives were founded in the context of the platform economy at least since 2016. The findings confirm that these workers' movements are a reaction to the platforming of work in emerging collectivities that focus on workers, fair pay, labor rights, and sustainability (Grohmann, 2022; Silva; Morello, 2021). These initiatives were chosen because of their diverse trajectories – some were born out of a union struggle, others focusing on gender equality – especially women and LGBTQI+ people, with different stages of development in Brazilian cities and states of different sizes, cultures, and characteristics (Figure 1).

Bike Delivery Services Ride Drivers apps Home Repair and Service Workers Management System for self-employed... Motorcycle Delivery Service Tech field workers Bike and Motorcycle Delivery Dervice Artists, Actors, and Musicians Garbage Collectors and Recyclers Carpooling 3 5 1 2 6

Figure 1 – Types and activities of cooperative platforms

Source: Authors (2023)

Following the paths of Bunders et al. (2022), we carried out some online inquiries by WhatsApp messages for the 9 main platform cooperatives in the bike delivery and ride app's segments. The questions were divided into 2 simple questions related to the main challenges to start a cooperative and put it into operation with their main directors. In the vast majority of interviewed, the main challenges to set up platform co-ops lie in raising capital, technological appropriation, and organizing collective and collaboration decision. Figure 2 presents these findings.

Figure 2 – Types and activities of cooperative platforms



Source: Authors (2023)

We believe that this research can be a descriptive record of the various possibilities and cooperative applications emerging in urban, plural, and diverse life in the Brazilian society. The next section discusses the strategic alternatives of these platforms for local and regional development to foster post-Covid-19 cooperation in the Brazilian market context.

7 DISCUSSIONS

Our study provides insights into how projects based on platform cooperatives are leveraging, structuring, and reshaping the meaning and direction of the sharing economy by developing business, income, and jobs in a balanced and sustainable way after the COVID-19 pandemic (Mendes, 2020). For Gargallo Castel and Pérez Sanz (2009), Information and communication technologies can allow a reduction in transaction costs by reducing the costs of integration, information, connection, relationship, facilitating a better flow of information for cooperation or solidarity actions. Thus, our mapping presents a new vision of how "prosumers" (service providers and consumers) become

"tech-prosumers," in which technologies are part of this cooperative agency, flattening the social, collective, economic, political and market structures (da Silveira et al., 2022).

The emergence of technology-based platforms alters the supply and consumption of products and services in the economy and market (Hossain, 2021). DPs provide a continuous process that integrates inductions, connections, and mediations, resulting in new interactions, relationships, and stimuli with social or behavioral structures between consumers and suppliers (Eckhardt et al., 2019; Ertz; Boily, 2019; Silveira et al., 2021). The mediation of digital platforms plays an integrative influence and position among human agents to transform, transport and remodel lifestyles, business, consumer relationships through the SE (Gil de Gómez Pérez-Aradros; Imaz Montes, 2022).

Cooperative platforms that operate in urban mobility activities, delivery services, and miscellaneous services were selected because these sectors have been widely used to explain the platform economy (Bunders et al., 2022). The use of the term "Uberization" to describe the labor markets in which buyers and sellers can connect through smartphones (Davis; Sinha, 2021) demonstrates that the name of a company in the sector has become a keyword for a model archetypal platform economy (Eckhardt et al., 2019).

Platform cooperativism provide a more ambitious vision on how to contribute to social change on a large scale, radically alternating the way the economy works (Falcón Pérez; Fuentes Perdomo, 2019). Platform cooperatives can assist in the process of sharing wealth while being an alternative to the new economic challenges faced after the COVID-19 pandemic. These socio-technological processes, combined with the relationships between individuals and technological artifacts, need more attention and questioning in studies of consumption, organization, workers, market, and cooperation (Ravanelle, 2017).

Platform cooperativism proposes to be an alternative to platform economics (Foramitti et al., 2020). In this model, members can democratically manage businesses by eliminating intermediaries and managing their own initiatives (Sandoval, 2020). For example, the idea is quite simple. App-based drivers manage their services as Facebook or WhatsApp users and democratically control their accounts and groups collectively,

associatively, and cooperatively. There are attempts to turn the decisions made more collective, in the sense of inserting more democracy in the work environment (Bunders et al., 2022). Therefore, platform cooperativism determines an important debate about alternatives to the sharing economy on the Internet controlled by monopolistic corporations, such as Uber, Airbnb, iFood, etc. (Sandoval, 2020; Scholtz, 2016). The platform cooperative can unite activists, software developers, precarious workers, entrepreneurs, and anyone who uses the Internet and digital technologies to create social, economic and market changes (Foramitti et al., 2020; Sandoval, 2020; Schneider, 2018).

Moreover, there are variations in the way workers are organized horizontally (Grohmann, 2022; Silva; Morello, 2021). Therefore, the platform cooperatives show that they learn together the best way to organize themselves in a cooperative of self-managed workers (Bunders et al., 2022). Moreover, the literature and empirical data show that cooperative platforms arise in response to the social problems, the extractive nature and little openness to dialogue of conventional or capitalist platforms (Bunders et al., 2022; Foramitti *et al.*, 2020).

This feeling of community and cooperation emerges from sharing practices and has been consolidated by the power of platforms to shape the dynamics of exchange and interaction between consumers, providers, and organizations (Hossain, 2021). Another important aspect is associated with the increased use of collaboration systems in which more individuals are willing to participate in digital initiatives associated with cooperative systems (Bunders et al., 2022;).

8 FINAL CONSIDERATIONS

Our study aimed to identify and map how cooperative movement can develop in Brazilian sharing economy context based on the digital platforms. Features, functionalities, solutions, and algorithms of digital platforms develop a reliable environment to intermediate products and/or services, generating conditions for the entry of new participants, cooperatives, consumers and/or entrepreneurs (Räisänen et al., 2020). The network learning to which the members are submitted fosters and disseminates new practices and structures. The digital platform complements the development and promotion of cooperative strategies among all those involved (Schor, 2020). This study proved to be a counterpoint to digital platform-based business models such as Uber, Airbnb, We Work, iFood, presenting platform cooperativism as an alternative to generate business opportunities, employment, and post-Covid-19 income. Platform cooperativism can give rise to the decisions of participants by providing alternatives, transparency, influence, sense of belonging, management, and control of income for the cooperative members (Bunders et al., 2022).

In the health crisis of Covid-19, collectives and cooperatives through platforms are providing alternatives for work, income, and entrepreneurship for many individuals and groups. This mapping described that many of the initiatives are based on social, economic, political, gender and diversity causes. These face high unemployment rates and work precariousness imposed by traditional sharing platforms. Richardson (2015) considers both the recent history of the sharing economy in cyber sub-cultures and the concept of 'diverse economies' to understand collaborative and cooperative economies that would complement the two preceding perspectives.

Our study described these new forms of workers' organization through digital platforms presented digital cooperatives as an alternative form to delivery product and services. However, our study is limited to not delving into the approach of each of the platforms. Future research can investigate the movements of platform cooperatives, their formats, symbols, reasons, actions, relationships, and collaborations. For Teixeira and Paraízo (2017) a platform cooperative research may reveal alternatives for building new forms of social, economic, and marketing organizations in which collaboration and sharing are genuine, intrinsic, and collective. Therefore, one path is to analyze how technology or digital platforms can be used more effectively to create equality and improve the well-being of individuals (Gil de Gómez Pérez-Aradros; Imaz Montes, 2022).

Finally, this study presented an empirical mapping initiatives of platform

cooperatives that still has validity limitations. Elements that assist in the structuring and development of cooperative platforms can only be validated by analyzing the relationships of cooperation, collaboration, production, work, rules, norms, tech procedures, capital support, sanctions, associations, and consumption.

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