Platform Cooperativism as an Alternative to Post-Covid-19 Economic Development

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Abstract
The COVID-19 pandemic has forced the world's population to undergo a significant transformation, accelerating social, economic, market and technological changes. In this context, sharing economy has promoted alternative business models, which transcend traditional capitalism in a digital movement disseminated by individuals, communities, and platforms, while eliminating barriers and bringing organizations, consumers, and providers closer together. Thus, our study aims to identify how digital platforms can develop sharing economy based on the cooperative movement. This research aims to contribute to the leverage of service sectors with the potential to accelerate the economic and social development of the country in line with strategic and production priorities. We developed exploratory qualitative research using netnography to analyze different contributions. First, we move forward in the discussion of the sharing economy based on digital platforms that provide cooperation. Second, we describe how platform cooperativism can be an alternative to the individualistic ethos of the sharing economy. Finally, we discuss initiatives with social and economic impacts that proved to be alternatives for solving problems related to employment and income after the Covid-19 pandemic. 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 economy and society.

Keywords: digital platforms; platform cooperativism; post-Covid-19 economy; sharing economy.

Introduction

The COVID-19 pandemic has forced the world's population to undergo a significant transformation, accelerating social, economic, market and technological changes. The virus has made our ability to project the future to be uncertain, forcing new solutions for individual and collective survival (Hossain, 2021). Given this perspective, new forms of production were enhanced, accelerating the digital transformation of the economy and business. Although we have already experienced a digital transformation in the way of doing business, the pandemic promoted an acceleration in this process, while re-signifying social, economic, and marketing behaviors (Dwivedi et al., 2020). In this context, sharing economy, supported by digital platforms, is strengthened, while eliminating barriers and bringing organizations, consumers, and providers closer together (Falcón Pérez & Fuentes Perdomo, 2019; Zhang, Geng, Huang, & Ren, 2021).

In a broad view, the sharing economy (SE) promotes alternative business models, which transcend traditional capitalism in a digital movement disseminated by individuals, communities, and platforms (De Vaujany, Leclercq-Vandelannoitte, & Holt, 2019; Hossain, 2021). In this perspective, basic activities comprise consumption, production, learning and finance through sharing practices (Belk, 2014). Thus, the concept of sharing economy business model is determined by the activities developed by digital platforms (DP) that mediate and support collaborative actions between consumers and service providers (Harvey, Smith, & Golightly, 2017). Thus, the platform can act simply as a digital intermediary, putting service providers in contact with users and facilitating the collaboration between them. But the platform may also be the one that provides the main product/service itself or provides auxiliary or complementary services to the main ones (Falcón Pérez & Fuentes Perdomo, 2019, p. 162).

Many researchers have seen in the sharing economy a potential to transition from a consumer society to a productive model capable of reducing environmental impacts and social inequality (Botsman & Rogers, 2011; Sandoval, 2020). New sources of income can foster solidarity and regenerate communities through collaborations and cooperations (Foramitti, Varvarousis, & Kallis, 2020). However, for Martin, Upham, and Klapper (2017) digital platforms in the sharing economy have been criticized for their public discourse of giving power to users, which cannot be considered true. In this perspective, digital platforms (DP) are defined as visible and invisible solutions that include websites, blogs, virtual message networks, mobile applications and social networks with texts, content, images, and videos allowing the rapid sharing of information, content, products, and services (De Reuver, Sørensen, & Basole, 2018).

On the one hand, most business models based on digital platforms have a total economic focus, paying little attention to social, environmental, and collaborative aspects (Schor, 2020; Sandoval, 2020). On the other hand, as an alternative to platforms with an economic focus, arise platforms with a cooperative focus in which their governance, with more democratic, equitable and participatory participation (International Cooperative Alliance [ICA], 2020; Scholtz, 2016; Silva, 2020). Cooperatives encourage social solidarity and show alternative potentials that can inspire collective action and social change (Schneider, 2018). Thus, the movement of digital cooperatives inspires changes in a new era of traditional cooperativism (Foramitti, Varvarousis, & Kallis, 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 (Kalil, 2020; Scholtz & Schneider, 2016; Sandoval, 2020). Platform cooperatives accommodate sustainability values in their governance system while balancing autonomy and collaboration through community and cooperative relations (Foramitti, Varvarousis, & Kallis, 2020; ICA, 2020; Sandoval, 2020; Scholtz & Schneider, 2016; Schneider, 2018).

Thus, it is necessary to understand cooperation 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 essays and proposals to give a better understanding of recent socio-technological phenomena (Bajde, 2014; Hossain, 2021; Martin, Upham, & Klapper, 2017; Silveira, 2020). Therefore, our research question is: How can digital platforms develop the sharing economy based on the cooperative movement? In this sense, our study contributes to the literature in different forms. First, we move forward in 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, in the sense of rivaling companies such as Amazon, Uber, and Airbnb (Scholtz, 2016; Schneider, 2018; Sandoval, 2020). Third, we discuss initiatives with social and economic impacts that proved to be alternatives for solving problems related to employment and income after the Covid-19 pandemic. For Zhang et al. (2021) when COVID-19 nit, many business-related initiatives based on platform technology started being associated with the feeling of community and cooperation.

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 followed as a methodological procedure. Next, we present 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 final considerations, limitations of the study and implications for future research.

Cooperativism and Cooperative

Cooperativism is noted over time as a powerful tool to generate development, crisis coping and for 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. This collective initiative demands commitment from all participants, so that it can succeed and achieve the common good (Rambo & Arendt, 2012; Sistema Ocergs - Sescoop, 2021). Thus, the core of the cooperative movement is characterized by the values of mutual help and equality of rights and duties (Farias & Gil, 2013; Schneider, 2018).

The constitution of a cooperative entity, as described by the International Cooperative Alliance (ICA, 2020), occurs with an autonomous association of people, voluntarily united to meet common, economic, social, and cultural needs, through an institution jointly owned and democratically managed by all associated members. Rios (2007) points out that this type of enterprise replaces profit and intermediaries for cooperation with results for its associates. 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 (Law no. 5,764/71 (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 (Schneider, 2006). Currently, Brazilian cooperatives are organized in 7 sectors (agriculture, consumption, credit, infrastructure, health, transportation, labor, production of goods and services). In this study, the focus is to map such initiatives of platform cooperatives considering these assumptions, structures, and segments in the movement of the sharing economy.

Sharing Economy and Digital Platforms

The Sharing Economy (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). Currently, 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 through this platform logic (Hossain, 2021). These platforms have become major conglomerates, creating direct and indirect jobs for millions worldwide (Martin, Upham, & Klapper, 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 based on a community-based economy and multifaceted platforms that offer users temporary access to tangible and intangible resources (Ertz & Leblanc-Proulx, 2018; Silveira, Levrini, & Ertz, 2021).

The COVID-19 pandemic has forced organizations to transform their business policies according to the changing scenario (Dwivedi et al., 2020). In this sense, the pandemic affected all businesses, including those based on a platform logic. For example, transportation platforms, 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 (Zhang et al., 2021). In addition, technologies have accelerated processes of exchange, interaction and sharing by flattening relationships between digital communities by providing a sense of questioning about their role in this collaboration and sharing in search of social well-being (Silveira, 2020; Silveira, Levrini, & Ertz, 2021; Zhang et al., 2021).

In this sense, the debate on the development of cooperatives to organize economic activities in platform capitalism emerges as a means of accommodating the classification of providers or suppliers as autonomous (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 in or are part of this environment generate a disruptive innovation of transformation in the world market and economies (Martin, Upham, & Klapper, 2017). The innovations generated by these platforms are disseminating behavior changes in society and business while developing a more balanced, collaborative, cooperative and sustainable economy (Hossain, 2021; Scholtz, 2016; Schor, 2020; Silva, 2020; Silveira, Levrini, & Ertz, 2021).

Platform Cooperative

From the perspective of platform cooperatives, the actors become essential when building 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 cooperativism 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). Platform cooperativism is different from traditional platforms. While the latter's main objective is to make the business produced through a central power, the main focus of a cooperative model is the direct benefit defined and approved by its participants (Scholtz, 2016; Scholtz & Schneider, 2016).

Thus, the concept of "platform cooperativism" differs from the traditional concept of platform: 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) There is the re-signification of concepts such as innovation and efficiency, given the benefit of all, and not the appropriation of profits for a few intermediaries (Scholtz, 2016; Sandoval, 2020). For Benkler (2017, 94), platform cooperativism can be favored because of its counterpoint to platform capitalism, the moment being conducive to cooperation between people and technologies, and the rise of the search for collaborative experiences of production and consumption. Thus, the post-COVID-19 era favors the emergence of collective and cooperative movements operating from social and technological networks (Dwivedi et al., 2020; Silva, 2020; Zhang et al., 2021).

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 intermediary part and develop strategies that can distribute in a more balanced way the income generated by the business (Foramitti, Varvarousis, & Kallis, 2020; Sandoval,

2020). Thus, 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 (Falcón Pérez & Fuentes Perdomo, 2019; Foramitti, Varvarousis, & Kallis, 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 through platforms. Thus, 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).

The platform cooperative raises questions about the social change that can occur through digital platforms. 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 (Parker, Van Alstyne, & Choudary, 2016; Kozinets, Patterson, & Ashman, 2017). Therefore, platform cooperatives emerge as potential alternatives for business that can inspire collective, sharing, and collaborative action for social change with a focus on sustainable post-Covid-19 economic development (Silva, 2020).

Methodology

The research strategy chosen for the development of this study is characterized as 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 variables that are evolving. Thus, the proposed discussions aim to explore the phenomenon of platform cooperatives identifying, mapping, and describing these current alternatives in the national context. As proposed by Yin (2015), the exploration of a phenomenon provides an overview of a little-explored topic, in which it becomes difficult to formulate hypotheses, but can describe the understanding of a case through real contexts.

The methodological procedures used in this exploratory research involved the application of virtual data surveys to improve knowledge on the topic of platform cooperatives and to map existing and developing initiatives online. In this sense, the data collection method known as netnography was used, which allowed data collection through digital tools, on the internet and online (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 through the Internet 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 on the nature of the analyzed phenomenon.

Archival data were collected from community members on social media Facebook, WhatsApp, Instagram, and Linked In regarding the object of study, to which there was no intervention or stimulation by the researchers, as it occurred through the capture of image, information and content of each platform analyzed. The extracted data were data created jointly by the researchers and the members of the communities analyzed (articles, websites, and message exchanges through the messaging applications) and the field note data were the

notes of researchers registered from observing the interactions with other researchers, press, associates, and promoters of initiatives of platform cooperatives.

For data analysis purposes, the content analysis technique was used to infer knowledge from different stages: (a) data reduction; (b) data presentation; (c) conclusions and verifications (Bardin, 2011). The first step of the research aimed to choose, eliminate, and organize the data according to the research design. In the following step, the representations generated enabled us to understand the analysis made. Finally, in the last stage, explanations about the observed phenomena were sought (Miles & Huberman, 1994).

Mapping Cooperatives Platforms

To understand how platform cooperatives emerged and were organized in the Brazilian context, research was made in electronic media, television, radio, and specialized magazines from October 2020 to October 2021. In a second phase, the researchers analyzed and listed recent articles and publications on the topic in business journals, cooperativism and communication. In the third stage, online consultations, mappings, extractions, and observations were carried out on websites, social networks, messaging applications of people involved with the movement of platform cooperatives in the local, regional, and national context.

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 8,000 articles on the subject, with Conecta.me, DigiLabour and MundoCoop being the most active websites. In addition to these portals, groups were mapped on Facebook, Instagram, and Linked In under the topic platform cooperativism.

These mappings of data researched, extracted, and consulted in observations through the Internet show that the domestic market is a fertile ground for initiatives such as platform cooperatives. With the emergence of job and income generation in 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 (2018) there are many contradictions between the capitalist movement and platform cooperative. However, many current initiatives are the result of a collective, collaborative, and cooperative work supported by market logic and occur mostly to provide job opportunities, income and improvements in the business relationship 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 do not have a formal legal characterization (DigiLabour, 2020). Therefore, this study mapped platform cooperative initiatives into three categories: (a) in operation; (b) under development; (c) under construction, following the content available on the digital portals Conecta.me, DigiLabour and MundoCoop (2021).

Platform cooperatives in operation
Somos. Ciclos

It is a platform cooperative in the city of Vitória (state of Espírito Santo) that aims to integrate professionals from doctors' cooperatives, health plans, credit, telephone services and sustainable energy. Ciclos emerged within the Sicoob Central Espírito Santo (Sicoob/ES) in

2018 to meet a demand from its members in the intermediation of non-financial services, but the credit cooperative discovered an opportunity to co-opt new members nationally in the format of free association regardless of whether they are part of the cooperative and Sicoob/ES. Information of Somos. Ciclos on the website: https://ciclos.coop.br/.

Cataki

It is a Brazilian cooperative developed to bring generators and waste collectors closer together, thus increasing recycling and income from it. The sector of waste pickers, though being responsible for 90% of everything that is recycled in Brazil, has no legal regulation or social recognition. Because they are self-employed workers, they have no labor guarantee, and therefore survive in precarious situations. Through the platform, companies and waste pickers can connect and combine a fair value for collection. Thus, they avoid the pollution resulting from disposal in inappropriate places and contribute to enhancing the dignity of their professional practice. Cataki information is available on the website: https://www.cataki.org/pt/.

Sicredi na Comunidade [Sicredi in the Community]

The Project is part of the purpose of uniting its members and community of the central and southern regions of Brazil covered by the Sicredi credit union. In this sense, they raise some inclusive flags to contribute to improving the quality of life of the people living in those communities. The causes supported by this platform are cooperation, education, and local economic development. The platform organizes all initiatives and puts into practice cooperation for the benefit of the communities involved. In this space, Sicredi brings together representatives of entities, entrepreneurs, project leaders, volunteers, and everyone who values growth together. More information at: https://sicredinacomunidade.com.br/.

Caronaê

The Caronaê Project emerged from the academic initiative of professors and students at the Federal University of Rio de Janeiro (UFRJ), being considered their official ride system. It is a system with a website and mobile application to access the academic community (students, teachers, and administrative technicians) and points of hitchhiking scattered throughout the Campus of the University City of UFRJ. The system, previously restricted to daily commutes to or from the Fundão Island campus in Rio de Janeiro, became a network in 2020 composed of all public and private institutions that are interested in participating in the collective. The Caronaê website and application has an open-source code and can be adapted to the reality of each academic community to contribute to a broader, collaborative, effective, reliable, and sustainable mobility system. Details at: https://caronae.org/index.html#top.

Pedal Express

Considered one of the first delivery cooperatives in Brazil. It has been active since 2010 and is an advocate of local cycle-messagery and currently aiming to integrate deliverers, restaurants, and other partners. Details at: http://www.pedalexpress.com.br/.

AppJusto

It is not considered a collective nor a cooperative, the creators of the business from the technology market have developed a platform with fair and transparent relationships in the delivery sector to assist several delivery people. One of the platform's differentials is to give autonomy to deliverers to set the price of the races based on what they call a "fleet" system. Through this mechanism, deliverers can join groups and each "fleet" can see the price charged by all others. The software created by AppJusto is open source. Thus, it can be used by other collectives and cooperatives that are interested in the technology. This experience is being tested in the market of São Paulo. Details on the website: https://appjusto.com.br/.

VouBem

It arose from the association of app-based drivers of the city of Maringá in the state of Paraná. The first move was the development of a Facebook profile https://www.facebook.com/voubem/ in November 2018. In the second stage, a website http://www.Voubem.com.br. In 2020, in the third stage, the applications for Android and IOS systems were launched. The collective is legally formalized by the association and considers itself more than a group of drivers but a cooperative lifestyle.

Smartcoop

It is a digital innovation developed by the Federation of Agricultural Cooperatives of the State of Rio Grande do Sul, intending to manage data, information, initiatives and business alternatives for rural producers and associated cooperatives. The platform was launched in April 2021 and is now available for desktops and smartphones for members of the 30 cooperatives that are part of the project. More information at: https://www.sescooprs.coop.br.

ContratArte

It is a digital platform developed to connect artists and their audiences in the state of Rio Grande do Sul, to create alternative work for art workers in the region. Initiative of students, scholars and researchers of the Federal Institute of Rio Grande do Sul (IFRS) of the Bento Gonçalves, Caxias do Sul, Porto Alegre, and Viamão Campuses. ContratArte, different from Somos, Ciclos, Cataki and VouBem, does not legally have a cooperative formalization. However, it uses the concepts and practices of the cooperative movement to connect, interact, associate, and share actions, transactions, and cooperation between those involved. It has been in operation since June 2021 and is available at the following electronic addresses: Website: https://www.contratarte.art.br/.

Developing platform cooperatives
Señoritas Courier

It is a collective of women and LGBT people from São Paulo. Their members are committed to mobility and sustainable development. Señoritas has an automated form to request a quote via Instagram and Facebook. More information on their Facebook page: https://www.facebook.com/senoritas.courier/ e no Instagram: https://www.instagram.com/senoritas_courier/.

TransEntrega

It is a collective movement with transgender people. It has the same commitment to social and environmental responsibility; this experience aims to associate transgender deliverers in the same model proposed by Señoritas Courier. The project is still in progress and more information can be found on Instagram: https://www.instagram.com/trans.entrega/.

Puma Entregas

Characterized by another group of female delivery workers, launched in 2020 in Porto Alegre as an alternative to work and income for many women in the capital. They are also advocates of bicycle use and local initiatives. Contact by Instagram: https://www.instagram.com/pumaentregas/.

Levô Courier

Another collective of deliverers from Porto Alegre, with a strong presence of women. This collective focuses on sustainable deliveries and urban mobility without polluting the environment by using bicycles. They can be found on Facebook: https://www.facebook.com/levocourier.

Contrate Quem Luta [Hire those who fight]

It is a blog or virtual assistant developed by the Homeless Workers Movement to connect their militants, associates and people who need the services of day laborers, doormen, musicians, masons, manicurists, cooks, electricians, etc. https://contratequemluta.com/.

Platform cooperatives under construction
SafeDelivery
This is the first initiative of SafeCoop, from the city of Curitiba, that brings together delivery and service workers. It intends to be a platform cooperative. SafeDelivery will be a cooperative of deliverers that will build its own platform, in which the profit generated will be allocated to its associates/employees. Details on the website: https://www.safecoop.com.br/.

Plataforma de Trabalho Decente [Decent Work Platform]

This initiative has been developed in the city of Salvador by the Federal University of Bahia by plumbers, masons, locksmiths, and construction assistants. Details about the proposal under test are available on the website: https://smartlabbr.org/.
In the next section, we discuss the strategic alternatives that these platforms can generate for local and regional development to foster post-Covid-19 cooperation.

Discussion

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). In addition, 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 (Silveira, 2020).

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, Levrini, & Ertz, 2021). The mediation of digital platforms stands out for assuming an integrative influence and position among human agents to transform, transport and remodel lifestyles, business, consumer relationships through the SE (Eckhardt et al., 2019; Ravenelle, 2017; Silveira, 2020).

Platform cooperatives 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 how wealth is shared, being an alternative to the new economic challenges faced after the COVID-19 pandemic. Thus, these socio-technological processes, combined with the relationships between individuals and technological artifacts, need more attention and questioning in studies of consumption, organization, market, and cooperation.

Platform cooperativism proposes to be an alternative to platform economics (Foramitti, Varvarousis, & Kallis, 2020). In this model, members can democratically manage businesses by eliminating intermediaries and managing their own initiatives (Sandoval, 2020). For example, the idea is very simple in that app-based drivers manage their services as Facebook or WhatsApp users democratically control their accounts and groups collectively, associatively, and cooperatively. Therefore, platform cooperativism determines an important debate about alternatives to the sharing economy on an Internet controlled by monopolistic corporations, such as Uber, Airbnb, iFood, etc. (Scholtz, 2016; Sandoval, 2020). 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, Varvarousis, & Kallis, 2020; Sandoval, 2020; Schneider, 2018; Silva, 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 (Dwivedi et al., 2020; Zhang et al., 2021).

Final Considerations

Our study aimed to identify how digital platforms can develop the sharing economy based on the cooperative movement. Digital platforms with their features, functionalities, solutions, and algorithms develop a reliable environment for the intermediation of products and/or services, generating conditions for the entry of new participants, cooperatives, consumers and/or entrepreneurs (Räisänen, Ojala, & Tuovinen, 2020). Thus, the network learning to which the members are submitted fosters and disseminates new practices and structures to which the digital platform complements the development and promotion of cooperative strategies among all those involved (Schor, Fitzmaurice, Carfagna, Attwood-Charlesa, & Poteat, 2016; Wegner & Mozzato, 2019). Thus, 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 (ICA, 2020; Kalil, 2020; Sandoval, 2020).

At this juncture of the health crisis of Covid-19, collectives and cooperatives through platforms are providing alternatives for work, income and entrepreneurship for many individuals and groups. The mapping described that many of the initiatives are based on social, economic, political, gender and diversity causes to face the problems of high unemployment rates and work precarization imposed by traditional sharing platforms. Thus, these collectives, associations and cooperative movements represent a union of application delivery men, service professionals, professionals specialized in the desire to promote their emancipation from precarious working conditions against the traditional capitalist model. For Scholtz (2016, p. 60) cooperatives can bring creativity not only to the consumption of products and services, but also to the reorganization of work through ethical, self-managed and collaborative counterparts.

Our study mapped and described these new forms of workers' organization through digital platforms, in addition to exposing existing cooperatives and pointing out alternative paths to the post-Covid-19 economic development. The collective or cooperative movements supported by digital platforms are no longer a theoretical thought, but a real, material, and latent one in the Brazilian market that needs more discussion, debate and deepening of researchers, such as support and strengthening for their practice as an economic solution of work, business, and income. 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) and Silva (2020) platform cooperative research may reveal real alternatives for building new forms of social, economic, and marketing organizations in which collaboration and sharing are genuine, intrinsic, and collective values. 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 (Falcón Pérez & Fuentes Perdomo, 2019; Dwivedi et al., 2020).

In addition, platform cooperatives can develop the service industry in the country to disseminate innovations based on scientific and technological knowledge. In this sense, they can contribute to increased competitiveness and productivity in sectors directly focused on the production of wealth for the country (Brazil, 2020). Therefore, this research aims to contribute to the leverage of service sectors with the potential to accelerate the economic and social development of the country in line with the strategic and production priorities highlighted in that regulation. Finally, 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 economy and society.

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