How to Build Alternatives to Platform Capitalism?

Melissa Renau Cano, Ricard Espelt, and Mayo Fuster Morell

1 Introduction

1.1 Platform Economy Sustainability

The platform economy involves the exchange, sharing, and collaboration of capital and labour among distributed groups supported by digital platforms. The rise in digitalisation, technological advancement, and big data analytics have contributed to the emergence of these digital platforms that mediate the provision of work (Piasna et al., 2022). The pandemic has further fuelled the expansion of such platforms (Barcevičius et al., 2021: 46). For instance, the demand for home food deliveries during lockdown inflated the need for food delivery platforms, like Glovo, as well as workers to match this demand.

The rise of the platform economy has become a high priority for governments across the globe, especially in regard to the expectations of the platforms to contribute to the sustainable development of society and the democratisation of the economy (Botsman & Rogers, 2011; Heinrichs, 2013). The establishment of the 17 Sustainable Development Goals (SDGs) in 2015 and the European Commission on a European agenda for the 'collaborative economy' in 2016 demonstrate the importance of achieving a better and more sustainable future for all (United Nations).

Although most research focuses on extractivist platform models such as Uber, a variety of models coexists and each is differently aligned towards SDG's. Although the platform economy is creating high sustainability expectations, there is huge ambiguity surrounding platforms that present themselves as collaborative when, in fact, they are not, such as the likes of Uber. Uber represents a unicorn extractionist corporation platform and is considered a new form of extractive capitalism, termed "platform capitalism" (Srnicek, 2016). The company is an incorporated, private company that

M. R. Cano · R. Espelt (✉) · M. F. Morell
Internet Interdisciplinary Institute, Open University of Catalonia, Barcelona, Spain
e-mail: ricardespelt@uoc.edu

S. Mezzadra et al. (eds.), *Capitalism in the Platform Age*, Springer Studies in Alternative Economics, https://doi.org/10.1007/978-3-031-49147-4_15

maximises profits at the cost that employees are hyper-exploited with low wages, no benefits, and have to cover the costs of insurance, maintenance, and fuel. At the same time, the platform siphons off every transaction the workers facilitate (Srnicek, 2017). It is, therefore, clear why so much confusion exists around digital platforms that classify themselves as collaborative, sharing, and commons-oriented (Fuster Morell & Espelt, 2019).

In this research we postulate that there are three different types of platform models: unicorn platforms, open commons, and platform cooperatives. Unicorn platforms are aimed at generating profit, usually through extractive means, and without looking to avoid the negative externalities caused by their activities (Fuster Morell et al., 2020b). It's no surprise why these platforms receive a lot of media and research attention, even though alternatives to unicorn platforms do exist, like alternatives linked to the tradition of digital commons (open commons) and cooperativism (platform cooperatives) that are aligning the platform economy towards the SDGs (Fuster Morell et al., 2020b).

1.2 Alternatives to Platform Capitalism

As briefly mentioned previously, one alternative to platform capitalism is "*platform cooperativism*", which adopts the principles of cooperativism and the values of the Social and Solidarity Economy (SSE) (Scholz, 2016). The SSE is an alternative to capitalism that aims to take the best practices in our present system (e.g. knowledge, use of technology, and efficiency) and remodel them to serve the community's welfare based on different goals and values (RIPESS, 2015). Platform cooperativism is a concept that includes foundations, associations, and cooperatives but also commercial companies with a social mission (Scholz, 2016). Open commons platforms go beyond platform cooperatives in the sense that they contribute to new developments opening data and knowledge through the use of open licences and Free Libre Open Source Software (FLOSS) (Bauwens & Kostakis, 2015; Benkler, 2006; Fuster Morell, 2010)

As briefly mentioned previously, one alternative to platform capitalism is "*platform cooperativism*", which adopts the principles of cooperativism and the values of the Social and Solidarity Economy (SSE) (Scholz, 2016). The SSE is an alternative to capitalism that aims to take the best practices in our present system (e.g. knowledge, use of technology, and efficiency) and remodel them to serve the community's welfare based on different goals and values (RIPESS, 2015). Platform cooperativism is a concept that includes foundations, associations, and cooperatives but also commercial companies with a social mission (Scholz, 2016). Open commons platforms go beyond platform cooperatives in the sense that they contribute to new developments opening data and knowledge through the use of open licences and Free Libre Open Source Software (FLOSS) (Bauwens & Kostakis, 2015; Benkler, 2006; Fuster Morell, 2010).

Although platform co-ops and other decentralised organisations based on social economy and open knowledge, such as open commons (Bauwens et al., 2019; Benkler, 2006; Fuster Morell, 2010), are a route into a fairer, more inclusive digital economy, these models have not received much research or policy attention (Fuster Morell et al., 2020a, 2020b). Few studies have conducted empirical case analyses, most concentrating on creating frameworks for analysis or organisational principles (Bauwens and Kostakis, 2015; Scholz, 2016).

In addition to this, no holistic framework currently exists to assess the pro-democratisation and sustainable qualities of the platform economy. Furthermore, although the sustainable design of platforms has considered economic and technological aspects, other aspects, including gender, inclusion, environmental impact and policy implications, have not been considered. Therefore, a multidisciplinary perspective of the platform economy is yet to exist.

1.3 Research Proposal

By compiling the results from the different research performed by Dimmons in the PLUS project, this chapter aims to bridge the gap in previous research by categorising different platform models (unicorn platforms, platform cooperatives, and open commons), using an analytical tool, "Star of Democratic Qualities" to visualise their pro-democratisation and sustainability qualities.

The sample is formed of a total of 60 cases (studied using digital ethnography), 20 of which were studied in depth using structured interviews, as well as semi-structured interviews, co-creation sessions, and surveys with stakeholders of three platform alternatives: Katuma, Smart, and Fairbnb. This will provide valuable insights into the sustainability implications of the different platform models' design and performance from several perspectives, considering the dimensions of social responsibility, economic strategy, technological base, governance, and knowledge policies—dimensions not considered in previous research. It will also assess to what extent Katuma, Smart, and Fairbnb may be considered alternatives to unicorn platforms in terms of gender equality, work-life balance, and working conditions.

2 Methodology

The "*Star of Democratic Qualities*" framework (explained in Sect. 3) was tested with an empirical analysis of 60 platforms. This wide focus allows for the analysis of the connection between a platform economy and SDGs by exploring the pro-democratisation and sustainable qualities of the platform economy models, including unicorn platforms and alternatives (Fuster Morell & Espelt, 2019). This was then followed by in depth semi-structured interviews, surveys, and co-creation sessions with stakeholders from the three platform alternatives (Katuma, Smart, and Fairbnb).

Table 1 PLUS' sample grid for categories considering unicorns versus alternatives

Sector	Number of platforms	Unicorn	Alternatives
Networked hospitality business	15	9	6
Taxi and car-sharing services	15	12	3
Urban food delivery	15	7	8
On-demand home services and care	15	11	4
Total	60	40	20

2.1 Sample

The sample consisted of platform stakeholders from each alternative platform: Fairbnb, Katuma, and Smart) and 20 platform economy' cases from 60 case-studies for a more in depth further analysis. Four main criteria guided the 60 case sample selection: (1) Platforms are related to the following PLUS working areas: domestic services, urban food delivery, taxi services, and networked hospitality. Fifteen cases were purposely selected in each area to develop a cluster analysis among cases in the same working area; (2) Platforms are active in one or more PLUS city; (3) The sample includes platform alternatives to the Unicorn platforms: 70% of the cases were unicorn platforms, 30% were platforms that aimed to be an alternative to unicorn platforms, e.g., non-profit business models; (4) although, for the global sample (studied through digital ethnography), we account for a proportionally higher amount of for-profit business models, it is the reverse in the 20 cases studied in depth, where more than 50% of the cases (11 out of 20) were non-profit business models.

The differences in platform economy modalities allow for comparisons in terms of how each platform economy model contributes to sustainability.

Considering the above criteria and PLUS working areas, the 60 case sample is as follows (Table 1).

2.2 Data Collection and Analysis

There were five methods of data collection: web collection, structured interviews, semi-structured interviews, surveys, and co-creation sessions.

Web Collection

Web collection was based on digital ethnography of the web platforms and was applied to all 60 cases. A "codebook" for data collection—a set of indicators related to the analysis variables—was employed. The codebook departs from the Star of Democratic Qualities framework. The design from the outset is based on a multidisciplinary analysis of the state of the art of the platform economy from economical, technological, environmental, gender and inclusion, and legal and policy perspectives.

Structured and Semi-Structured Interviews

Interviews

Structured interviews were conducted with 20 of the 60 cases. The guiding set of questions was based on the Framework of Democratic Qualities and the codebook (see D.1.2). On the other hand, semi-structured interviews were conducted online with 12 stakeholders (four from each platform cooperative). The stakeholders interviewed were members of the organisations, providers, customers, technological providers, and workers. The interviews were performed to understand the stakeholders' views on working conditions, redistribution of gains of their organisation and platform cooperatives in general, gender perspectives, and the strengths and limitations of economic performance in terms of growth. The guiding set of questions was based on the Framework of Democratic Qualities and the codebook. Each of the three researchers analysed the data using a DAFO analysis.

Survey

The survey gathered participants' demographic data as well as their views on their working conditions. Twenty-one participants completed the Fairbnb survey, sixteen respondents completed the Katuma survey, and eleven participants completed the Smart survey. Although the survey was slightly modified to adapt to each platform cooperative, the baseline was to ask a similar set of open and closed questions to obtain comparable data.

Co-creation Sessions

The co-creation sessions were designed to present the survey results, listen to the participants' opinions, and discuss possible strategies for the improvement of the platform cooperatives. In the Fairbnb co-creation session, seventeen people participated (4 managers, 5 workers, 4 local partners, 2 individuals cumulating roles of worker and local partner, and 2 co-authors of the D5.2 report). The Katuma co-creation session consisted of ten participants who were users, producers, members of consumer groups, researchers, Katuma's workers, and volunteers. The Smart co-creation session involved nine members of Smart and Smart internal personnel.

3 The Star of Democratic Qualities

This section presents the framework to assess the pro-democratisation and sustainability of platform economy models, which is a framework formulated from our previous works (Fuster Morell & Espelt, 2019). The framework segments the pro-democratic qualities of the platform economy into five dimensions: governance, economic model, knowledge policy, technological and data policy, and social responsibility regarding externality impacts (Fig. 1).

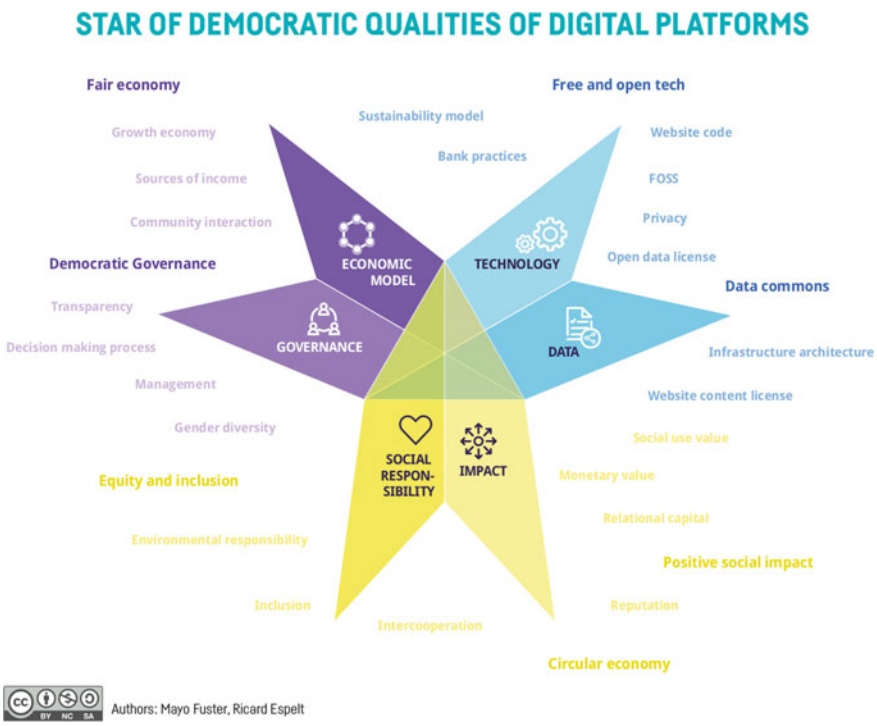

Fig. 1 The star of democratic qualities (Fuster Morell & Espelt, 2019)

The United Nations' 17 SDGs have been linked to the Star of Democratic Qualities. The five dimensions and their connection to the SDGs are explained below.

3.1 Governance

The governance dimension of the framework can be segmented into different aspects:

(1) The democracy among value creators at the platform interaction level.
This relates to the adoption of any formal or informal decision-making system/tool, the participation of users in the definition of formal rules and policies and decisions about the platform's income distribution, spaces for workers'/producers' organisation, and the relationship between users, i.e., if users can communicate among themselves or create groups.

(2) The governance regarding platform ownership organisation.
This involves the type of legal entity and the options for community members to engage with each type, considering: public administration, university, foundation, association, cooperative, company, or without legal format; (2.2) the status

of users (i.e. users only or also owners) regarding the platform's legal entity; (2.3) the accessibility of profit and loss account to all the members of the legal entity; and (2.4) the publication of the financial statements to both members and non-members of the platform.

The platform governance indicators mentioned above, and the targets developed to achieve the different SDGs' goals are unrelated in this case.

3.2 Economic Model

This dimension examines the link between economic benefits (destination and distribution) and social impacts (labour rights and conditions and growth type), and the economic sustainability of the project and their financial models (private capital, ethical finance, distributed fund). To ensure equitable and timely remuneration and access to benefits and rights for workers (right to disconnect, rejection of excessive vigilance at the workplace, protection against arbitrary actions, safe income, salary predictability and maximisation of income).

Some of the indicators of the democratic qualities in relation to the economic model dimension (growth model, juridical recognition, job creation, earnings maximisation and income security, minimum salary, salary equality, working conditions, workers' caring support, health workers' safety, and gender equality) are ingrained in goal 8 (full and productive employment, decent work for all, and promote inclusive and sustainable economic growth), goal 1 (end poverty in all its forms everywhere), goal 3 (ensure healthy lives and promote well-being for all at all ages) and goal 4 (ensure inclusive and quality education) of the SDGs.

Governance and economic model are interconnected as, ultimately, the way that the project or platform is governed is connected to the underlying economic model (Fuster Morell & Espelt, 2018).

3.3 Knowledge Policy

This dimension refers to the type of property as established by the licence used (free licences or proprietary licences) of the content and knowledge generated; type of data (open or not), the ability to download data (and which formats), and the promotion of the transparency of algorithms, programs and data. Privacy awareness and the protection of property from personal data and prevent abuse, as well as the collection or sharing of data without consent. This aspect also regards guaranteeing the portability of data and reputation. No SDGs acknowledge platform knowledge policies.

3.4 Technological and Data Policy

This dimension refers to the freedom and openness (type of platform licence, whether free or proprietary) of a platform's software and the model of technological architecture (distributed or centralised). This democratic indicator connects to goal 9 of the SDGs (foster innovation, promote inclusive and sustainable industrialisation, and build resilient infrastructure).

Like the divisions of governance and economic model, knowledge and technological policies are also interconnected as the way the platform promotes knowledge is based on the platform's technological tools and licences (Fuster Morell & Espelt, 2018).

3.5 Social Responsibility and Impact

These dimensions relate to any source of awareness and responsibility regarding the externalities and negative impacts, such as social inequalities and exclusion, the inclusion of gender, in regard to equal access to the platform for people of all kinds of income and circumstances in an equitable and impartial way (without discrimination). This dimension also regards compliance with health and safety standards that protect the public and the environmental impact (promoting sustainable practices that reduce waste and emissions).

The social responsibility and impact dimension relates to the majority of the SDGs, including 1 (end poverty in all its forms everywhere), 2 (zero hunger), 3 (ensure healthy lives and promote well-being for all at all ages), 5 (achieve gender equality and empower all women and girls), 7 (ensure access to affordable, reliable, sustainable, and modern energy), 8 (promote inclusive and sustainable economic growth, employment, and decent work for all), 9 (build resilient infrastructure, promote sustainable industrialization, and foster innovation), 10 (reduce inequality within and among countries), 11 (make cities inclusive, safe, resilient, and sustainable), 12 (ensure sustainable consumption and production patterns), 13 (take urgent action to combat climate change and its impacts), 14 (conserve and sustainably use the oceans, seas, and marine resources), 15 (sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss), 16 (promote just, peaceful, and inclusive societies), and 17 (revitalise the global partnership for sustainable development). Figure 2 shows the connection between the democratic qualities of the platform economy and the SDGs.

In the following sections, the sustainable and pro-democratic platform economy dimensions are analysed using 20 platform economy cases and a deep study of three different alternatives to platform capitalism: Fairbnb, Katuma and Smart. The analysis will also focus on the contributions of different digital platform economy models in achieving SDGs' objectives.

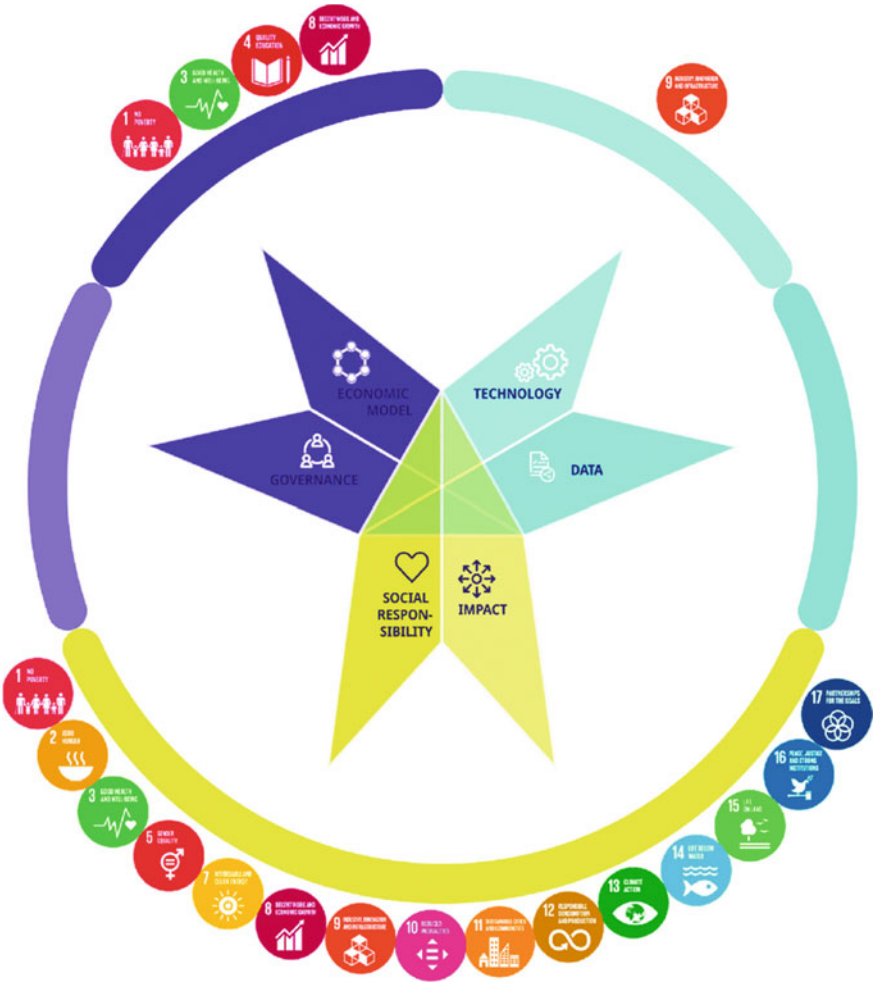

Fig. 2 The star of democratic qualities of digital platforms with the sustainable development goals incorporated (Fuster Morell et al., 2020b)

4 An Analysis of 20 Cases in Europe

4.1 Governance

Regarding platform governance, the analysis in terms of informal mechanisms shows that 14 out of the 20 platforms studied in depth consider that they are enabling workers' spaces for organisation (13 of them are alternative business models (platform cooperatives, for-profit social businesses, etc.). Although it is important to note that one for-profit platform (Case 19) considers that the company is providing spaces

for workers' organisation, as they can meet in the streets during working hours, but explained that this is something that the company does not want to foster.

Similarly, in one of the for-profit business cases studied (Case 29), the manager argued that collaborators (workers) have a space to provide comments about each service performed, but the platform does not see their comments. They added that although they would like closer contact with collaborators to improve the service, they did not because they wish to make the non-dependent working relationship between parties clear, where legal requirements specific to a paid employee do not apply.

The informal mechanisms analysis also measured the existence of a democratic decision-making process. The analysis found that 11 out of the 20 platforms established a decision-making system, all of which are considered alternative models to unicorn platforms. Of the nine cases that have not established a decision-making system, just two are considered alternative business models. But it is important to note that one of these cases is a recently created not-for-profit model (Case 50), and the other is a for-profit social business (Case 31). This implies that all the for-profit business models studied in depth and considered unicorns (or potential unicorns) have not established any type of system for democratic decision-making.

Concerning formal mechanisms, one of the key indicators is the legal format of the platforms studied. The analysis shows that the platform economy has a varied makeup that goes beyond for-profit models. Of the platforms studied, 71.7% are commercial companies, while 28.3% are based on not-for-profit legal formats.

In terms of the user's involvement in formal rules and policies that govern the platform from a community interaction perspective, 14 out of 20 cases state that users can participate in the definition of formal rules and policies, while six consider that they cannot. Secondly, in 9 out of 20 cases, those making decisions regarding the use and distribution of platform benefits are its owners, while the other half is all the members (9 out of 20).

With respect to platforms' external economic transparency, 17 out of 20 platforms do not publish their financial statements openly on their websites. However, the level of internal economic transparency is also quite opaque, with 13 out of 20 projects not allowing all of the legal entity members to have access to the profit and loss accounts.

4.2 Economic Model

Economic Orientation and Sustainability

In terms of the projects' economic orientation, nine out of the 20 projects studied in depth would like to grow progressively, decentralising governance. Seven out of the 20 projects studied aim to escalate without changing their governance model and without the idea of selling the platform in the future. Finally, three out of the 20 are considering selling the platform in the future.

Regarding economic sustainability, most of the projects studied (75%) are still to reach the break-even point. In addition to this, and as detailed in Table 2, there appears to be no clear connection between legal entity and economic sustainability.

Platforms' Financing Sources

The most common sources of funding for platform cooperatives are non-monetary donations from the community and public funds (five out of eight cases). Other important sources include compulsory members' fees (four out of eight cases), monetary donations, non-monetary donations from external actors, family savings and direct micro-participation (3 out of 8 cases). Two out of eight cooperatives used debt investment and research grants, and one cooperative utilised equity investment and the sale of merchandise. None of the eight cooperatives offered advertising or premium services and/or products to gain funding.

Six out of nine commercial companies used family savings as a funding source. Other important funding sources include public funds, equity investment and debt investment. All sources of funding are used in five out of nine cases. These main sources are followed by the companies offering premium services and/or products (four out of nine cases), compulsory fees (three out of nine), the sale of merchandising and advertising (two out of nine cases), and research grants (one out of nine).

Sources of funding that are important for not-for-profit models remain either insignificant or almost insignificant for for-profit models. Regarding non-monetary donations from the community, non-monetary donations from the external actors, monetary donations, and direct micro-participation, only the latter is mentioned, but only in one case out of nine.

Platforms' Labour Models

Among the alternative models, six out of thirteen cases rely on mixed models, and four out of thirteen cases consider workers in paid-employment recognitions. In the unicorn or extractivist business models, the most used platform labour model was a mixed one (four out of seven), followed by complete dependence on self-employed workers (two out of seven) and paid employment (one out of seven). The most popular model among all cases is a mixture model, meaning that in the platform economy, a combination of the two juridical recognitions exists (self-employed vs paid employee workforce). It is also important to note that just one unicorn platform considers workers in a paid-employment framework, whereas a greater number of alternative platforms consider workers as having paid-employment juridical recognitions.

Table 2 Project economically sustainable. Break-even point reached (n = 20)

Legal entity type	Break-even point reached	Proportion
Cooperative	1	1 out of 8
Association	2	2 out of 3
Commercial company	2	2 out of 9
Total	5	5 out of 20

Whether workers are paid by the number of tasks/deliveries completed or a fixed amount per hour depends on the type of laboural recognition of platform workers. There are two different models among those recognised as self-employed. A first model, whereby workers are paid per hour or unit of time (3 out of 4 cases), and a second model in which workers are paid per task or deliveries completed (1 case out of 4). Among the business models where the workers are considered paid employees (5 out of 20), they are all paid per hour or equivalent unit of time. Among business models in which a self-employed workforce and a paid-employment workforce coexist with non-consideration of, for example, hosts as workforce, different models are found.

Working Conditions and Future Options

During the interviews, the platform managers were asked about their subjective views of the platform workers' working conditions. Fifteen of the twenty platform managers believed that their workers were working in a safe physical environment, whereas four managers believed that their conditions were unsafe.

A majority of the platforms studied consider that platform workers are learning new abilities and developing high skills when working (thirteen out of twenty), while the other seven platform managers failed to provide a positive answer. Half of the sample studied agreed that platform workers are performing short-repetitive tasks, with 8 out of 20 platforms stating that they were not.

In 14 cases, the platform managers state that their workers earn an hourly salary above minimum wage. In terms of wage quality, a polarised ecosystem exists whereby in 9 out of 20 cases, any legal member is earning twice or more than other members, and in 8 out of 20 cases, there is at least one legal member that is earning twice or more than other members.

Geolocation, Algorithmic Management and Gamification Techniques

Regarding the use of geolocation techniques, most of the platforms (11 out of 20) are not using them, and among those that do, 7 out of 20 stated that they are only using them during platform workers' working hours. None stated that they are constantly monitoring platform workers, i.e. even when they are not working, while two platforms did not give an answer to this question.

A total of nine out of 20 cases studied use algorithmic management techniques: six out of seven unicorn platforms use them, in comparison to three out of thirteen alternative platforms (Fig. 3). Regarding gamification techniques (the use of game elements to incentivise platform workers towards certain behaviours), four of the platforms use them.

Just two of the twenty platforms state that platform workers can reject both algorithmic management and gamification techniques (where used) if they want to. Both of these cases are alternative platforms, which means that no unicorn platform has stated that platform workers can reject both algorithmic management and gamification techniques.

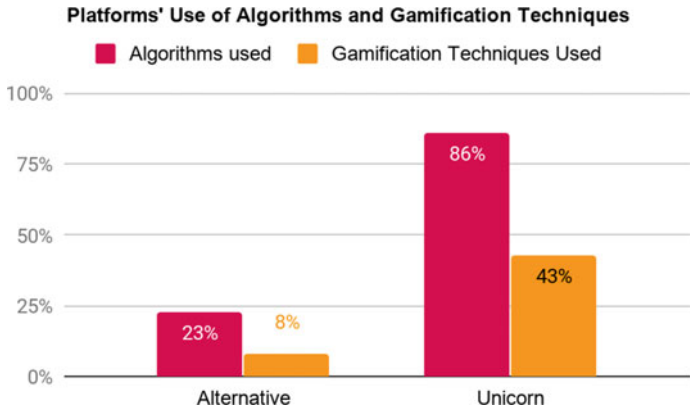

Fig. 3 Platforms' use of algorithms and gamification techniques per platform type (n = 20)

4.3 Knowledge Policies

Two elements (content and data) were analysed regarding knowledge platform policies. The content element refers to the type of user-generated content licence and its categorisation from more open/free to less. It was found that 95% of the 60 platforms studied considered user-generated content under copyright licence, whereas just two cases licenced it under open source.

4.4 Technological and Data Policies

Technological practices and policies openness refers to the adoption of software and technological architecture that favour openness and freedom. The results found that 66.7% of the 60 platforms use copyrighted software, and 33.3% adopted open source.

The indicator adopted for categorising data policies was the ability to access data generated by users. Just one project out of 60 made it possible to obtain access to their data through a data commons licence "CC BY-NC-ND" (Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International), the remainder (98.3%) did not specify a licence on their website.

4.5 Social Responsibility and Impact

Community Building and Relational Capital

The majority of platforms studied have more female than male users, but this difference in this type of profile can be considered insignificant. When the proportion of

men and women platform workers is evaluated, this can be explained by the largely male-represented food delivery sector or the largely female-represented care and cleaning sector. However, there is a discrepancy when looking at the gender representation of platform owners. Of those that agreed to answer this question (n = 13), only one platform had an equal representation in terms of gender, while the remainder had more men than women as platform owners. Moreover, just 6 of the 20 platforms mentioned having explicit policies to promote gender equality.

The social responsibility measures taken depend on the legal type of the platform. Three out of nine of the commercial platforms are adapted or available to people with functional diversity, whereas six out of the eleven non-profit platforms (cooperatives and associations) are adapted. Furthermore, eight out of the eleven non-profit platforms are promoting the involvement of people on low incomes, while just three out of the nine for-profit platforms are doing so. In addition to this, five out of the nine commercial companies consider that they promote the involvement of people with just a basic education, while seven out of eleven non-profit models do.

In terms of environmental responsibility, six non-profit platforms are promoting the circularity and recycling of materials in comparison to just two commercial platforms. In addition to this, two commercial platforms and two alternative platforms stated that their platforms are hosted on green energy servers. Four non-profit platforms offer a type of service or product improving energy efficiency, and four commercial platforms are doing so. Six of the non-profit platforms are active in the provision of educational materials to increase awareness of sustainable consumption compared to just two commercial platforms.

Clear differences are observed between non-profit and commercial platforms concerning economic responsibility. For instance, nine of the non-profit platforms prioritise social responsibility when choosing service providers compared to two of the commercial platforms.

5 Narrow Focus: Fairbnb, Katuma and Smart

This section explains the qualities of the alternative models based on the three platform alternatives being cases in the Star of Democratic Qualities framework (Fuster Morell & Espelt, 2019; Fuster Morell et al., 2020a) and summarises the main outcomes from the in depth stakeholder interviews, surveys, and co-creation sessions (Renau Cano et al., 2021).

5.1 Fairbnb

Fairbnb is an accommodation rental program with a mission to make the rental process sustainable, fairer, and more rewarding for the whole community. The cooperative believes that its responsible and sustainable community-driven tourism model

is a consistent solution to many of the 17 SDGs set by the UN in the 2030 Agenda (Fairbnb). The platform aims to be a viable alternative to unicorn platforms like Airbnb by implementing the following measures:

- **Social sustainability**: Fairbnb takes a 15% fee of the booking price and donates 50% of its profits to supporting local social and ecological projects to counter the negative effects of tourism and the other half goes towards the costs of Fairbnb, and part of it goes to the local partner, known as the ambassador. The ambassador finds social projects to be funded and looks for lawful hosts aligned with Fairbnb's vision.

  In order to facilitate sustainable tourism, Fairbnb also works with local governments to promote regulations and additional policies to tailor the platform to local needs.
- **Collective ownership**: Fairbnb is managed and owned by a cooperative of hosts, guests, neighbours, and local business owners.
- **Democratic governance**: Hosts, users, neighbours, and local business owners collectively decide how and where to reinvest part of the profits, e.g., community cafés, playgrounds and green projects.
- **Transparency**: The platform is dedicated to open data. Data is protected and shared with local administrations when necessary to ensure compliance with local and regional regulations.

5.1.1 A Deep Look into Fairbnb

One aspect of work-life balance is the right to disconnect from the platform. Fairbnb does not use any geolocation devices like its unicorn alternative Airbnb. Of those who answered the question, 8 out of 10 workers/ambassadors believed Fairbnb guaranteed the full right to disconnect from internal communication tools and 8 out of 13 stated that disconnection did not penalise them. However, guaranteeing full disconnection as a start-up requires establishing working hours, including the need for breaks, days off, and maximum working hours, as well as respecting the workers' individual needs and responsibilities. Thus, the need to have a sense of when workers and ambassadors are available to meet is important.

All direct workers of Fairbnb learn skills specific to their work, including learning how to use different communication tools that Fairbnb use (mail, chat, and forum). However, the Fairbnb survey revealed that the ambassadors felt that Fairbnb only partially addressed training needs. They suggest that the complexity and diversity of the skills required need monitoring and constant readaptation. The managers further noted that this lack of training causes challenges in creating a shared and consistent organisational culture with all stakeholders and facilitating knowledge exchange. It is obvious that new ambassadors need training on the specificity of working for a platform, for example, skill development regarding legal and tax issues, marketing and communication, business development, and negotiation.

A reflection from the co-creation sessions is that Fairbnb needs to think in terms of learning rather than just training. Training is task-oriented and serves the organisation's needs, whereas learning is continuous and focuses on the individual's needs. As a result of the co-creation sessions, Fairbnb is now redesigning its learning materials for ambassadors, which will gather the main questions, learnings and concerns among the different local communities associated with Fairbnb.

The results of the co-creation sessions also demonstrated the need to create better training regarding health and safety for teleworking. Psychological well-being was highlighted as a result of the isolation of workers and partners, especially during the COVID-19 pandemic. Thus, this emphasised the need for more spaces for bonding and informal exchange, which links to improving workers' right to disconnect from the platform as well as implementing a tool whereby local partners and workers can see each others' availability.

Based on the survey data, Fairbnb has a gender imbalance in all operational levels. Even though more than half of the workers are women, the four senior managers are men, only one-third of ambassadors are women, and three out of twenty-four co-op members are women. Despite these statistics, there is currently no gender equality plan. The survey pointed out that a quarter of the respondents found that Fairbnb was "very little" or "not at all" inclusive. The perceivable lack of diversity and inclusion within Fairbnb can lead to biases in the organisation's processes and the design of the platform.

Fairbnb is conscious of these challenges and is reflecting on how to prevent and tackle potential situations of abuse, including the creation of a Diversity Committee (which will act more as a consultancy and policy entity) and an external conflict resolution body (which will be active day to day as a space to report any abuse). The conflict resolution body will ensure the policies and tools defined by the Committee are followed while managing conflict resolution.

5.2 Katuma

Katuma is an agro-food consumption platform that connects producers and consumers of agroecological products. The platform is based on commons' platform economy values and was developed by Coopdevs, a non-profit association focused on free and open software to promote social and solidarity economy projects. In relation to the star of democratic qualities, Katuma encompasses the following:

- **Governance**: A membership cooperative governance is planned. Katuma is owned and controlled collectively by local producers and consumers.
- **Economic model**: Katuma intends to fund the platform by introducing membership fees for both producers and users of the platform.
- **Technological Policy**: The platform is developed with open software. So Katuma is able to maintain control of its own data and make collective decisions about how the platform operates.

- **Knowledge Policy**: The contents are under a CreativeCommons (BY NC) licence.
- **Social Responsibility**: The project is focused on connecting producers and consumers in terms of social justice.

5.2.1 A Deep Look into Katuma

Although the virtual shop owners are not subjected to geolocation and their work is not managed through the platform, digital devices, including email and instant messaging, do have an effect on them. Especially as this role is often done outside the employee's working day. In Katuma's case, there is no system that displays availability, as is the case for couriers of on-demand delivery platforms.

Although platforms like Uber have all their communications embedded in their own platform, and disconnection is possible, for other platforms like Katuma, where other digital devices are relied upon, disconnection may not be enough. It is, therefore, important to identify how people make themselves available and include some mechanisms for the adequate monitoring of time.

As aforementioned, not all work is performed through or monitored by the digital platform as the virtual shop owners perform activities, e.g. meeting with producers, outside of typical work hours. They are considered platform workers even though their work is not all managed through the digital platform. They are considered platform workers because they must access online to perform some necessary and essential tasks for the provision of the service at the request of customers. This stressed the importance of reconsidering what is working time and ensuring that all activities performed and time devoted are monitored and remunerated.

In the survey, 13 out of 16 participants suggested that Katuma contributed in some way to enriching their professional skills. However, what is understood as enhancing "workers" professionalism' is a subjective concept if used without any kind of clarification to establish what can be considered professional. In addition, just 2 out of 16 participants suggested that Katuma solved all their training needs.

Katuma has devoted time and resources to teaching users how to operate the platform. However, due to the platform being constantly updated, these changes require relearning. Even though Katuma developed training in the form of YouTube videos and webinars, some co-creation session participants were unaware of their existence. During the co-creation session, participants suggested the platform develop an interactive manual with a simplified definition of all concepts, and in the long term, the participants voted for the creation of a chatbot and new telegram channels. This will help Katuma to devote its reduced resources to the aspects that users find the most useful.

5.3 Smart

Smart is a non-profit organisation that was launched in Belgium in 1994 under the name SMartBe. Smart enables workers, entrepreneurs and organisations to invoice, work together with other professionals, and manage a budget on an occasional or a long-term basis (Smart, 2022). The cooperative model allows freelancers to remain autonomous while accessing a range of support services, a more protective employment status, and social security and protection.

- **Governance**: A governing board makes the decisions of the cooperative, and the users are invited once or twice a year to hold an assembly. Voluntary open participation.
- **Economic Model**: All members share the costs of the cooperative's administrative and economic services. Each member pays a €150 initial share capital contribution and a 7.5% services commission. With this capital, the organisation pays members' bills in advance. Future profit will be fully reinvested in broadening services offered.
- **Technological Policy**: There is not a technological platform running yet.
- **Knowledge Policy**: The knowledge generated is not open.
- **Social Responsibility**: The project promotes cultural and artistic activity.

5.3.1 A Deep Look into Smart

Smart is an interesting case since it relies on offering workers some of the characteristics of self-employment underemployment figures. The platform cooperative provides social security at the same time that workers are entitled to flexibility and autonomy regarding both tasks and working time. The organisation shares some characteristics with Katuma and Fairbnb in the sense that working time is not just the time monitored and/or managed by the platform.

Although Smart cannot guarantee work, the platform cooperative does guarantee workers remuneration when the demand drops. Nine out of eleven survey respondents considered that they autonomously decided their own schedule, while only two out of eleven considered that clients had a role. Six out of 11 considered that they had complete freedom over their schedule since they answered that they do not have to work certain hours or days, and they neither have a minimum nor maximum stipulated hours.

In addition to this, despite being Smart employees, 81.8% of the respondents considered that they independently decide their time dedication. But even though workers can refuse tasks at their discretion, this may have negative consequences e.g., a customer may terminate a contract.

In terms of workers' training, even though Smart attempts to promote training and professionalism, training opportunities often do not reach its recipients. This is because of several reasons, including Smart believing that its member should ask for the training they need and members being reluctant to cover training costs.

6 Conclusions

This combined research aimed to show the potential contribution of each platform's business model to sustainable development using the Star of Democratic Qualities framework and identify how the sustainable design of the platform economy could contribute to the SDGs. It also intended to identify to what extent platform cooperatives are an alternative to unicorn platforms in terms of working conditions. This was tested with an empirical analysis of 60 platforms and a deep study of three alternatives to platform capitalism: Fairbnb, Katuma and Smart.

Platform Economy Models and Their Contribution to Sustainable Development

Regarding participation in terms of gender (SDGs 1, 5, 8, and 16), it has been stated that, as users, on average, platforms are equal. Despite this, no project that considered itself as having an equal representation in workforce gender terms has been found. In addition, just 6 of the 20 platforms studied in depth mentioned having explicit policies to promote gender equality. This can be found in both unicorn platforms and alternatives, as is the case for Fairbnb, for example, there appears to be a gender imbalance in all operational levels and no gender equality plan in place.

The results show that social responsibility measures in terms of inclusion (SDG 10) differ depending on the type of legal form. Three out of nine commercial platforms are adapted or available to people with functional diversity, while six out of the eleven non-profit platforms (cooperatives and associations) are adapted. Moreover, eight out of the eleven non-profit platforms are promoting the involvement of people on low incomes, while just three out of the nine for-profit platforms are doing so.

Regarding environmental responsibility (SDGs 2, 3, 7, 8, 9, 11, 12, 13, 14, and 15), six of the non-profit platforms are promoting the recycling and circularity of materials, compared to just two commercial platforms. Six of the non-profit platforms are also active in the provision of education materials to raise awareness about sustainable consumption, compared to just two of the commercial companies.

In terms of concern towards economic responsibility (SDGs 11, 12, and 13), the research indicates clear differences are observed according to the different platform economy models. For example, regarding prioritising social responsibility when choosing service providers, it was found that nine of the non-profit platforms studied were actively doing so, as opposed to only two of the commercial platforms.

Regarding economic models (SDGs 1, 3, 4, and 8), the analysis shows that there is a diverse ecosystem in regard to legal entities, with no clear relationship between legal entity and economic sustainability as the majority of the commercial and non-profit platforms (including the three cooperatives studied in depth) are not all economically sustainable. This is partly because, especially in the case of the three pilots, the platforms are in their initial stages, lack funding, and/or have been affected by the COVID-19 pandemic hampering their scalability and sustainability.

Although the proportion of non-profit projects who received public funds is equal to the proportion of commercial companies that have received public funds, there are some differences in the various sources of funding used depending on the legal

entity type. For example, non-profit business models mostly used public funding and non-monetary donations from the community, whereas commercial companies mostly used public funds, family savings, equity investment, and debt investment.

A platform's labour model is also closely related to its economic model. Most platforms studied followed a mixed model with a combination of a self-employed workforce and paid employees (10 out of 20). We, therefore, have to consider that for "mixed models", those who perform commercial activities through the platform are not considered workers of the platforms' legal entities. This combination is also sometimes made as an adaptation strategy to local laws and agreements, whereby in one territory, platform workers are considered self-employed, while in another territory, the workforce—doing the same tasks—is considered paid-employment figures. It is also important to mention that there are cases in which platform workers are not considered as workforce by the platform and instead are considered as "providers" or "producers", with the platform considering itself as an intermediary in which the different users can interact with each other.

Regarding the use of gamification techniques, algorithm management, and geolocation, most platforms, including non-profit ones, find geolocation techniques decisive for the platform's functioning. Seven of the 11 platforms that do not use geolocation techniques were alternative platforms. Moreover, while just three out of 13 alternative platforms use algorithmic management, six out of seven of the unicorn platforms do. No unicorn platform has stated that platform workers can reject both algorithmic management and gamification techniques compared with two of the alternative platforms.

In terms of technological policies (SDGs 9), the findings showed that 66.7% of the platforms use copyrighted software, while 33.3% adopted open-source technological infrastructures. The research observed a high level of copyright or non-licenced website content and found just one out of the 60 platforms allows its content to be downloaded. Thus, there is an apparent lack of consideration of technological policies. It's also important to add that SDGs do not focus at all on data policies.

Alternatives to Platform Capitalism

As well as analysing the different platform models' contributions to the SDGs, this research aimed to assess if platform cooperatives can be considered as alternatives to unicorn platforms in terms of gender equality, work-life balance, and training opportunities.

Both Katuma and Fairbnb facilitate democratic governance, whereby community members can come together to decide the future of the platform and how it should be run. The results from the empirical analysis of 60 platforms also found that alternative platforms like platform cooperatives and associations enable workers and users to actively participate in the definition of formal rules and policies, as well as acting as spaces for workers' collective organisation. It was found that none of the for-profit models studied in depth had established a system for democratic decision-making, whereas 11 out of 13 alternative models had. This is solidified by our previous research on 10 non-profit platform cases in Barcelona (Espelt & Foster Morell, 2019), which found that the majority of the cases accomplished aspects of the commons

star platform economy review at a good level, especially in terms of the non-profit economic dimension (economic model) and open participation in governance.

Although not all non-profits go beyond non-discrimination and promote inclusion and diversity among workers, there is evidence of improvements being made in this regard, such as the creation of a Diversity Committee and an external conflict resolution body, in the case of Fairbnb. A similar case can be presented for training opportunities as although all three platform cooperatives promote training and professionalism, reflections from the survey and co-creation sessions suggested that training needs to be accessible, financed by the platform, and updated regularly.

It is apparent from the results that platform cooperatives are less likely to use geolocation devices and algorithm management techniques compared to unicorn platforms. For example, six out of the seven unicorn platforms studied in depth used geolocation devices and seven of the 11 platforms that did not use geolocation techniques were alternative platforms. Moreover, while just three out of 13 alternative platforms use algorithmic management, six out of seven of the unicorn platforms do. But two of the alternative platforms stated that the platform workers could reject both algorithmic management. These results are backed up by the in depth study of Fairbnb, Katuma, and Smart, as they all use simple algorithms to guarantee the performance of services but do not deploy algorithmic management. Despite this, in Smart's case, even though workers can refuse tasks at their discretion, this may have negative consequences, e.g., a customer may terminate a contract.

For many digital platforms, except in some cases like Uber, not all work carried out is monitored or managed by the platform, as work is often done outside the platform and outside the employee's workday. For example, answering emails, meetings with clients, etc. So, although the stakeholders studied believed that they were guaranteed the right to disconnect without penalisation, especially in Fairbnb, Katuma, and Smart's case, guaranteeing the full right to disconnect from the platform and communication tools can be difficult.

This ties in with the importance of platforms to implement mechanisms for the adequate monitoring of time, as well as establishing maximum working hours, breaks, and days off. Because of the nature of platform work, including the freedom it provides, platform workers do not have a minimum, or maximum stipulated hours, and the platforms (both unicorn and platform cooperatives) do not often monitor their rest periods. For example, Smart does not monitor if members rest at least 14 h every 24 h.

To sum up, this chapter contributes to previous literature that emphasises that different platform models coexist in the platform economy, and each of them contributes differently to sustainable development. A good connection was observed between the SDGs and the Star of Democratic Qualities, demonstrating the importance of distinguishing the pro-democratisation and sustainable qualities of the different platform models in order to design public policies according to these differentiations. However, it is also important to note that no digital platform will fulfil 100% of the five democratic qualities or contribute to all SDGs.

Furthermore, the chapter shows that, beyond unicorn platforms, an alternative model of collaborative economy exists based on democratic qualities and the principles of cooperativism. Thus, this combined research report agrees with previous studies on social economy and cooperatives that point to cooperative models offering better working conditions compared to "capitalist" businesses (Burdin & Dean 2009; Roelants et al., 2014). However, it is important to note that the alternative platforms studied are either in their initial stages or are experiencing problems regarding scalability, economic sustainability, funding, and gender equality. Further research, could complement the analysis developed in this research by expanding the number and types of platforms analysed. However, an important strand of the literature should also focus on how different public policies may enable alternative platforms to succeed counterbalancing all these drawbacks.

References

Barcevičius, E., et al. (2021). *Study to support the impact assessment of an EU initiative to improve working conditions in platform work*. Brussels, European Commission. https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8428

Bauwens, M., & Kostakis, V. (2015). Towards a new reconfiguration among the state, civil society and the market. *Journal of Peer Production, 7*, 1–6.

Bauwens, M., Kostakis, V., & Pazaitis, A. (2019). *Peer to peer: The commons manifesto*. University of Westminster Press.

Benkler, Y. (2006). *The wealth of networks*. Yale University Press.

Botsman, R., & Rogers, R. (2011). *What's mine is yours: How collaborative consumption is changing the way we live*. Collins.

Burdín, G., & Dean, A. (2009). New evidence on wages and employment in worker cooperatives compared with capitalist firms. *Journal of Comparative Economics, 37*(4), 517–533.

Fairbnb.coop—Sustainable B&B, rooms, bnb and vacation rentals. (n.d.). Retrieved September 05, 2022, from https://fairbnb.coop/

Fuster Morell, M. (2010). *Governance of online creation communities: Provision of infrastructure for the building of digital commons*. Dissertation, European University Institute

Fuster Morell, M., & Espelt, R. (2018). A framework for assessing democratic qualities in collaborative economy platforms: Analysis of 10 cases in Barcelona. *Urban Science, 2*(3), 61.

Fuster Morell, M., & Espelt, R. (2019). A framework to assess the sustainability and the pro-democratization of platform economy: The case of Barcelona ecosystem. *Sustainability, 11*(22), 6450.

Fuster Morell, M. et al. (2020a). Report on the different business typologies of digital platforms in the sharing economy. In *Platform labour in urban spaces: Fairness, welfare, development*.

Fuster Morell, M., et al. (2020b). Sustainable platform economy: Connections with the sustainable development goals. *Sustainability, 12*(18), 7640.

Heinrichs, H. (2013). Sharing economy: A potential new pathway to sustainability. *GAIA-Ecology Perspective Science Soc, 22*, 228–231.

Piasna, A., Zwysen, W., & Drahokoupil, J. (2022). The platform economy in Europe: Results from the second ETUI Internet and Platform Work Survey (IPWS). S*SRN Electronic Journal*.

Renau Cano, M., et al. (2021). Report on the evaluation of the pilots in Fairbnb.coop, Katuma and SMartFr. Report.

RIPESS. (2015). *Global vision for a social solidarity economy: Convergences and differences in concepts, definitions and frameworks.* Report.
Roelants, B., Hyungsik, E., & Terrasi, E. (2014). *Cooperatives and employment: a global report*. CICOPA & Desjardins Group, Brussels, Belgium.
Scholz, T. (2016). *Platform cooperativism: Challenging the corporate sharing economy.* Rosa Luxemburg Stiftung.
Smart. (2022). Retrieved September 05, 2022, from https://smartbe.be/en/
Srnicek, N. (2016). *Platform capitalism* (Theory redux). Polity
Srnicek, N. (2017). The challenges of platform capitalism: understanding the logic of a new business model. *Juncture, 23*(4), 254–257.
United Nations. (2020). *About the sustainable development goals.* Retrieved May 07, 2020, from https://www.un.org/sustainabledevelopment/sustainable-development-goals/

Melissa Renau Cano is a Ph.D. candidate at the Dimmons Research Group in the Internet Interdisciplinary Institute at the Open University of Catalonia, Spain. She is also a research fellow at the Global Future of Workers Initiative from Rutgers University.

Ricard Espelt is a senior researcher at the Dimmons Research Group in the Internet Interdisciplinary Institute at the Open University of Catalonia, Spain.

Mayo Fuster Morell is the principal investigator and director of the Dimmons Research Group in the Internet Interdisciplinary Institute at the Open University of Catalonia, Spain. She is also a fellow at the Berkman Klein Center for Internet and Society at Harvard University, USA.