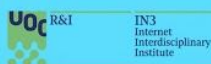Report

# CITY RESOURCES ON SOCIALLY RESPONSIBLE PLATFORM MODELS

March 2020

## SHARING CITIES ACTION

### CITIES ACTION ON CHALLENGES AND OPPORTUNITIES OF PLATFORM ECONOMY

# City Resources on Socially Responsible Platform Models

# 1. Introduction and Background

The **Platform Economy (PE)** is used as a *floating signifier* for **interactions among distributed groups of people supported by digital platforms that -by matching supply and demand- enable them to exchange, share and collaborate in the consumption and production of activities leveraging capital, assets, and labour.**

The Platform Economy (PE) is growing rapidly and exponentially. Some of the most known businesses are provoking controversial impacts such as gentrification and underpayment of goods and services while contributing to a steady increase in low-paid jobs and huge public controversy (Codagnone et al., 2016). However, other PE organisations are contributing to the sustainable development of society, significantly signalling the PE' potential in contributing to sustainable development (Botsman & Rogers, 2010; Cohen & Kietzmann, 2014; Heinrichs, 2013), while constituting a paradigmatic change (Rifkin, 2014).

The fact that **different business models coexist** within the PE, and that each of them has different potential impacts, points out the **need for differentiating these models**. Despite the fact that different models exist within the Platform Economy (PE) ecosystem, there is no classification system that helps to differentiate platform models. In this sense, establishing a proper framework for differentiating platforms can help researchers, policy-makers, as well as any other type of agent interested, in order **to decide which models should be promoted and/or funded** according to their potential to contribute to a fairer sustainable development of society.

This report contributes to addressing this challenge by providing a multidisciplinary framework for platform' differentiation. Contrary to previous research, this report considers questions related to technological and economic aspects while integrating other sustainability relevant questions, such as environmental impact, gender equality and social inclusion, and legal implications. This report presents ***"The Star of Democratic Qualities of Digital Platforms"*** as a tool to analyse the platform economy' business models.

*The Star of Democratic Qualities of Digital Platforms* is an **analytical tool that helps to differentiate platform models** by analysing the democratic qualities of Platform Economy (PE) initiatives. Moreover, it evaluates platforms from the dimensions of governance, economic strategy, technological base, knowledge policies and social impact.

This report is structured in the following way. Firstly, a differentiation of concepts surrounding the Platform Economy is shown. Secondly, the *Star of Democratic Qualities of Digital Platform* is introduced. Thirdly, some of the indicators that allow differentiating Platform Economy business models are presented. Then, in order to show the applicability of the *Star of Democratic Qualities of Digital Platforms,* a brief analysis of several cases of platforms with positive impact in Europe is shown. Finally, a short gathering of entrepreneurship programmes for collaborative platforms, some bibliographical references, and a set of resources for platform design and evaluation are presented.

This report is part of the **Sharing Cities Action** programme, a joint action between Dimmons -a research group at the Open University of Catalonia- and the Barcelona City Council. The programme began with the hosting of the 3rd **Sharing Cities Summit** in 2018, after the editions in Amsterdam (2016) and New York City (2017). In 2018, nearly 50 cities from around the world gathered in Barcelona and launched the ***Declaration of Common Principles and Commitments for Sharing Cities***[1].

Following this summit, Barcelona committed to create a network of global cities **with the aim to work together to tackle the challenges and leverage the opportunities of the Platform Economy**. Sharing Cities Action is the result of this commitment: a global collaboration between cities to ensure city sovereignty and to promote socio-economic development by being a hub for:

- Establishing paths for joint negotiation regarding the platform economy' regulation.
- Promoting and adapting labour and digital rights.
- Promoting public innovation.
- Establishing criteria for platform differentiation.
- Promoting digital platforms with a positive impact.

Currently, the open network is formed by 48 Cities: Almere, Amsterdam, Athens, Atlanta, Barcelona, Bethlehem, Bilbao, Bologna, Bordeaux, Bristol, Buenos Aires, Corunna, Eindhoven, El Prat de Llobregat, Fez, Ghent, Gothenburg, Grenoble, Kobe, Lisbon, Madrid, Malmo, Maribor, Melbourne, Milan, Montelíbano, Montreal, Montreuil, Muscat, 31New York City, Paris, Prague, Reykjavik, Rijswijk, San Francisco, Santiago de Compostela, São Paulo, Seoul, Singapore, Stockholm, Taipei, The Hague, Toronto, Turin, Umea, Valencia, Vienna and Vitoria.

This involves a total of 26 countries: Argentina, Australia, Austria, Belgium, Brazil, Canada, Colombia, Czech Republic, France, Greece, Iceland, Italy, Japan, Morocco, Oman, Palestine, Portugal, Singapore, Slovenia, South Korea, Spain, Sweden, Taiwan, The Netherlands, the United Kingdom, the United States of America.

Finally, in 2019 cities renewed their willingness to collaborate and define together an Action Plan for 2020. Most importantly, in 2020 the city of Seoul is going to take over from Barcelona, New York City and Amsterdam. In this regard, Seoul is going to support the program for establishing collaborations between cities and organize the *Sharing Cities Summit 2020*.

---

[1] To take a look at the Sharing Cities Declaration visit: http://www.sharingcitiesaction.net/declaration/

# 2. Terminology and Definitions of Platform Economy

The terms "platform economy", "sharing economy", "gig-economy", "collaborative economy", among others, have often been used to describe the same phenomenon (Juntunen, 2017). However, they do not exactly mean the same thing. Although there is no consensus on the activities of each concept, in this report the **Platform Economy** is understood as interactions among distributed groups of people supported by a digital platform that matches supply and demand (Fuster et al., 2018).

In this regard, the **Sharing or Collaborative Platform Economy** in this report is understood as a type of Platform Economy with a set of qualities regarding both the design and the performance of the process - characterized by a commons approach regarding the dimensions of governance, economic strategy, technological-based, knowledge policies, and social responsibility of the externalizations impacts of the platforms. It is characterized by:

**(1)** Favouring peer to peer relations —in contrast to the traditionally hierarchical command and contractual relationships detached from sociability, and mere mercantile exchange— and the involvement of the community of peers generating in the governance of the platform.

**(2)** Being based on value distribution and governance among the community of peers, and profitability is not its main driving force.

**(3)** Being developed over privacy aware public infrastructure, and resulting in (generally) open access provision of commons resources that favour access, reproducibility and derivativeness.

**(4)** Responsibility with the externalities generated by the process.

Finally, the **gig-economy** is a concept which refers to poorly paid and low skilled jobs, which are mostly governed by non-standard contractual forms. Although most platform work is characterised by being framed inside the gig-economy, platform labour is not the equivalent of gig-work. The Platform Economy could also promote other types of employment not related with non-standard forms.

# 3. Models to Differentiate Platforms

The Platform Economy (PE) is formed by different types of business models. While some of the most known businesses are provoking controversial impacts, other PE organisations are contributing to the sustainable development of society. This last fact points out the need for differentiating these models, the ones which can be considered under the umbrella of the Sharing Economy from the ones which cannot. Thus, an analytical framework for differentiating platforms depending on their democratic qualities is necessary.

This section provides a categorisation of the different PE models and introduces the Star of Democratic Qualities of Digital Platform. Differentiating models according to their pro-democratic qualities can help researchers, policy-makers and other stakeholders to decide which models should be promoted and/or funded depending on their potential to contribute to a fairer sustainable development of society.

Then, some of the indicators that allow differentiating Platform Economy business models are presented. Finally, an analytical exercise to study the appropriateness of the Star as an empirical tool to promote both the Declaration of Sharing Cities and Sustainable Development Goals is shown.

## 3.1. The Different Models in the Platform Economy

In this subsection, a categorisation of Platform Economy business models is presented. Three models of digital platforms are presented by differentiating between positive impact and negative impact models. They are referred to as "Unicorn", "Open Commons" and "Platform coops", see *Table 2*.

| | Unicorn | Open Commons | Platform coops |
|---|---|---|---|
| | **NEGATIVE IMPACT PLATFORMS** | **POSITIVE IMPACT PLATFORMS** | **POSITIVE IMPACT PLATFORMS** |
| **Type of governance** | ● Multinationals or start-ups<br>● Centralized governance | ● Foundations and non-lucrative associations with participatory systems<br>● Informal self-managed communities | ● Small and Medium Enterprises & Cooperatives<br>● Participative governance |
| **Type of economy** | ● Venture capital; value extraction<br>● Oriented on optimizing profit for their investors; minimizes costs and taxation<br>● Optimization of the profit detrimental to labour rights | ● Crowdfunding<br>● Value distributed | ● Crowdfunding<br>● Value distributed |
| **Type of technology** | ● Proprietary software<br>● Software as a Service closed source | ● Free and Open Software (replicable) | ● Free and Open Software (replicable) |
| **Type of knowledge** | ● Closed or owned data, user data commodification, user policies and rights could be abusive or hardly abusive<br>● Knowledge patented, under copyright | ● Open data<br>● Free-libre licenses (Creative Commons, etc) Open Knowledge | ● Vary |

| | | | |
|---|---|---|---|
| **Social responsibility** | <ul><li>Lack of indicators but scandals of abuses</li><li>Negative environmental impact</li><li>Negative social impact on communities</li><li>Rarely caring on social exclusion issues or responsible exploitation of natural resources</li></ul> | <ul><li>Irregular: Circular economy, gender policies</li><li>Social inclusion</li></ul> | <ul><li>Irregular: Circular economy, gender policies</li><li>Social inclusion</li></ul> |

*Table 1. Three models of digitals platforms: Open commons, Platform coops and Unicorns.*

## 3.2. Star of Democratic Qualities to Differentiate Platforms

In this subsection, the Star of Democratic Qualities is introduced. The Star of Democratic Qualities consists of several dimensions: Governance, Economic Model, Data Policy, Technological Policy and Social Responsibility and Impact. Each of these dimensions is thus explained.

# STAR OF DEMOCRATIC QUALITIES OF DIGITAL PLATFORMS
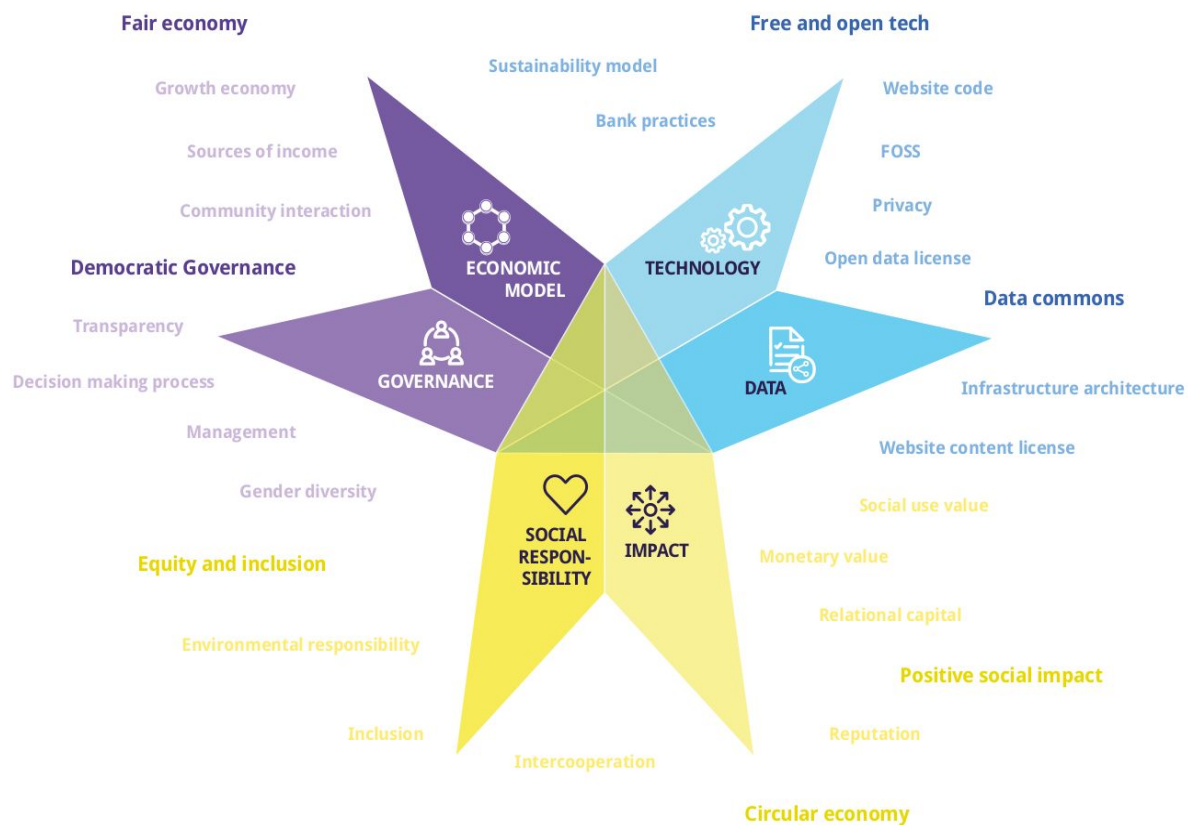
*Figure 1. Star of Democratic Qualities of Digital Platforms.*

○ **Governance:**

In this dimension, it is evaluated how far the platform is involving the community in the platform's governance. Different platform functionalities are related to the extent to which users can participate. Moreover, there are also some formal mechanisms related to ownership through which platform governance can be evaluated.

○ **Economic Model:**

In this dimension three subdimensions are evaluated: 1) the link between the orientation of the economic benefits and the social impact of the activity; 2) the economic sustainability of the project, meaning if it has reached the break-even point, and 3) the financing model differentiating between capital sources.

○ **Data Policy:**

In this dimension, several variables related to the possibility of downloading data and in which formats are gathered, the type of licences used regarding the content and knowledge generated, as well as the promotion of the transparency of algorithms, programs and data.

○ **Technological Policy:**

In this dimension, the openness of the license software (free or proprietary) and the model of technology architecture: distributed (for example, using blockchain) or centralized (Software as a Service) are evaluated.

○ **Social Responsibility and Impact:**

In these dimensions the social impact of the platforms regarding negative and positive externalities are evaluated. They are evaluated according to a set of criteria such as: if the platform guarantees its access to people with all kinds of income without discrimination; if it has gender positive policies, if it complies with health and safety standards to protect the users; etc. Finally, its environmental impact[2] and its impact on the political sphere are also evaluated.

---

[2] Promote sustainable practices that reduce emissions and waste taking into account the rebound effect that they can generate, the most efficient use of resources, the origin and production conditions of the goods and services they offer (i.e. if favouring proximity) while minimizing resource consumption and maximising recycling.

## 3.3. Operationalization of the Star of Democratic Qualities of Digital Platforms

The main aim of this subsection is to operationalize the Star of Democratic Qualities of Digital Platforms. Some indicators which are easy to collect and are good drivers of the democratic qualities in each dimension (see *Table 1*) have been selected from an initial codebook of more than 150 indicators.

| Governance model | Type of economic enterprise | Cooperative, foundations or SME with a system involving the community in decisions regarding the use and distribution of the platform' income. |
|---|---|---|
| | Open participation at the digital platform | Users participate in the definition of formal rules and policies. |
| Economic model | Goal | The main objective of the project and/or organization is not profitability. |
| | Transparency | Financial statements published openly to both members and non-members of the platform. |
| Knowledge policy | Open content | Free license. The contents can be reused. |
| | Open data | Users can participate in the governance of data. |
| Technological policy | FLOSS | The platform is developed in Free/Libre and Open Source Software. |
| | Decentralized | The software can be federated and/or hosted in different servers. |
| Social responsibility and Impact | Inclusion | The platform has features to favour the inclusion of socially disadvantaged groups. |
| | | The project has an active gender inclusion policy. |
| | Green | The platform promotes the recycling and circularity of materials as well as sustainable consumption. |

| | | The platform is hosted in green energy servers. |
|---|---|---|

*Table 2. Operationalization of the Star of Democratic Qualities of Digital Platforms.*

## 3.4. The Star and its Contributions to the Declaration of Sharing Cities and Sustainable Development Goals

As stated in a previous section, during the **Sharing Cities Summit 2018** forty-two large scale cities started a collaboration to deal with the threats and opportunities of the Platform Economy (PE). This collaboration led to *the **Sharing Cities Declaration**[3]* which integrates cities' different viewpoints on the Platform Economy (PE) and updates and expands upon a set of 7 principles, established during its New York meeting in 2017.

In the following figure, the Sharing Principles have been linked to the Star of Democratic Qualities of Digital Platforms, along with the 17 Sustainable Development Goals (SDG). See *Figure 2*.

By doing this linking exercise, three different **objectives** are reached. First, the Star of Democratic Qualities of Digital Platforms compliance with the Sustainable Development Goals is evaluated. It shows that **the Star of Democratic Qualities of Digital Platforms has included indicators related to almost all the Sustainable Development Goals** (just lacking Goal 6: Clean water and sanitation). Secondly, **the Sustainable Development Goals are also evaluated showing a lack of concreteness regarding technology and data policies** which are key for fair sustainable development. In this regard, it is shown how **the Sharing Cities Declaration works as a tool that -by providing a greater specificity into digital platforms-can help to align the Platform Economy (PE) with SDG**. Thirdly, it shows the **relevance of the Star of Democratic Qualities of Digital Platforms as a framework to evaluate platforms** alignment with both the Sharing Cities Declaration and the Sustainable Development Goals.

---

[3] To take a look at the Sharing Cities Declaration visit: http://www.sharingcitiesaction.net/declaration/

*Figure 2. The Star of Democratic Qualities of Digital Platforms and Its Contributions to the Declaration of Sharing Cities and the Sustainable Development Goals*

# 4. Cases of Positive Impact' Platforms

## 4.1. Fairbnb.coop

| | | |
|---|---|---|
|  | Brief summary of the project | Fairbnb is a cooperative accommodation booking platform that promotes and funds local initiatives and projects. |
| | Website | https://fairbnb.coop/ |
| **Governance** | Type of economic enterprise | Cooperative. All the members participate in decisions regarding the use and distribution of the platform' income. |
| | Open participation at the digital platform | Users participate in the definition of formal rules and policies. There are going to be online forums where users will be able to interact. Moreover, after a certain time engaged in the local nodes, users can make decisions. |
| **Economic Model** | Goal | The main objective of the project and/or organization is not profitability. |
| | Transparency | Financial statements published openly to both members and non-members of the platform. |
| **Technological Policy** | Open content | CC BY-NC (Attribution-Non-Commercial). |
| | Open data | Users can participate in the governance of data. The platform users will help to decide what happens with the data. The users of the platform will decide what to do with it. |
| **Knowledge Policy** | FLOSS | GPLv2 (GNU General Public License Reduced Version 2) |
| | Decentralised | Centralised in one entrance point. |
| **Social Responsibility and Impact** | Inclusion | The platform is adapted and available to people with functional diversity and promotes the involvement of low-income collectives and people with basic education. |
| | | They are looking actively for women to join the team. They would like to have more women as owners. |

| | Green | The platform promotes the recycling and circularity of materials as well as sustainable consumption. They are providing hosts of educational materials in order to give them information about recycling issues. They also promote the use of more sustainable materials for more broadly spread options. For example, the platform suggests hosts give metallic bottles to their guests to avoid the use of plastic bottles. |
|---|---|---|
| | | It is not hosted in green energy servers. |

*Table 3. Fairbnb' analysis*

## 4.2. Cotabo

| | | |
|---|---|---|
| **COTABO** *IL PRIMO TAXI DI BOLOGNA* | Brief summary | Taxi cooperative located in Bologna. |
| | Website | http://www.cotabo.it/?lang=en |
| **Governance** | Type of economic enterprise | Cooperative. Members participate in decisions regarding the use and distribution of the platform income. |
| | Open participation in the digital platform | Users participate in the definition of formal rules and policies through traditional cooperative mechanisms. |
| **Economic Model** | Goal | The main objective of the project and/or organization is not profitability. |
| | Transparency | Financial statements are not published openly to both members and non-members of the platform. |
| **Technological Policy** | Open content | No license. |
| | Open data | They do not use data for secondary commercial activities. |
| **Knowledge Policy** | FLOSS | GPLv2 (GNU General Public License Reduced Version 2) |
| | Decentralised | Centralised in one entrance point. |
| **Social Responsibility and Impact** | Inclusion | The platform is adapted to people with functional diversity. |
| | | The project has an active gender inclusion policy. |
| | Green | The platform promotes the recycling and circularity of materials and sustainable consumption. |
| | | Not hosted in green energy servers. |

*Table 4. Cotabo' analysis*

## 4.3. Open Food Network

| | Brief summary of the project | The Open Food Network is a global network of people and organisations working together to build a new food system. |
|---|---|---|
| | Website | https://www.openfoodnetwork.org/ |
| **Governance** | Type of economic enterprise | Cooperative: members participate in decisions regarding the use and distribution of the platform income. |
| | Open participation in the digital platform | Users participate in the definition of formal rules and policies. Users make a request to each local node and then it is communicated to the global network. |
| **Economic Model** | Goal | The main objective of the organization is not profitability. |
| | Transparency | Financial statements are not published openly to both members and non-members of the platform. |
| **Technological Policy** | Open content | CC BY-SA (Attribution-Share-Alike) |
| | Open data | Users can participate in the governance of data. Each member of the local nodes own their data. Each local node agrees democratically on its uses. |
| **Knowledge Policy** | FLOSS | Open Source License |
| | Decentralised | Federated (e.g. Kune) |
| **Social Responsibility and Impact** | Inclusion | The platform doesn't have features to favour the inclusion of socially disadvantaged groups. |
| | | The project has an active gender inclusion policy. |
| | Green | The platform promotes sustainable consumption through educational actions. |
| | | It is not hosted in green energy servers |

*Table 5. Open Food Network' analysis*

## 4.4. CoopCycle

| | Brief summary of the project | CoopCycle is a European federation of bike delivery coops. It creates a strong bargaining power to protect bikers rights. |
|---|---|---|
| | Website | https://coopcycle.org/en/ |
| **Governance** | Type of economic enterprise | Cooperative: members participate in decisions regarding the use and distribution of the platform income. |
| | Open participation at the digital platform | Users participate in the definition of formal rules and policies. They organise themselves through different working groups in which they discuss different topics. |
| **Economic Model** | Goal | The main objective of the project and/or organization is not profitability. |
| | Transparency | Financial statements are not published openly to both members and non-members of the platform. |
| **Technological Policy** | Open content | No license |
| | Open data | Users can participate in the governance of data. They can join a working group which is called "Development" and take part in the decision-making regarding data uses. |
| **Knowledge Policy** | FLOSS | Open Source License |
| | Decentralised | Centralised in one entrance point. |
| **Social Responsibility and Impact** | Inclusion | The platform promotes the involvement of low-income collectives and people with basic education. |
| | | The project has an active gender inclusion policy. |
| | Green | The platform promotes the recycling and circularity of materials. |
| | | It is not hosted in green energy servers. |

*Table 6.CoopCycle' analysis*

# 5. Mapping Resources of Platform Economy Cases

In this section, a list of mapping resources of PE' cases is presented.

- **Transicope**
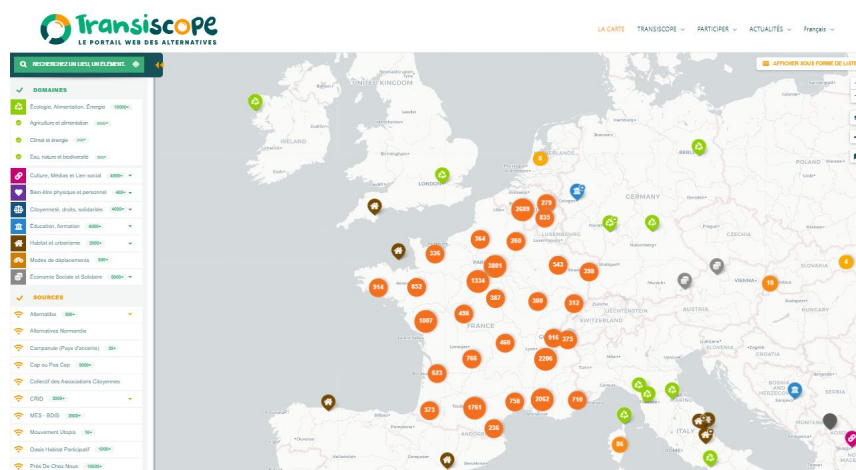


Transicope is a project supported by 12 organisations and fed by various contributors whose  aim is to constitute an aggregated visualization tool of ecological and social transition projects.  More than 22000 projects have been mapped worldwide. https://transiscope.org/carte-des-alternatives/#/carte/@48.98,3.16,3z?cat=all

- **P2P Economy Directory (DIMMONS)**
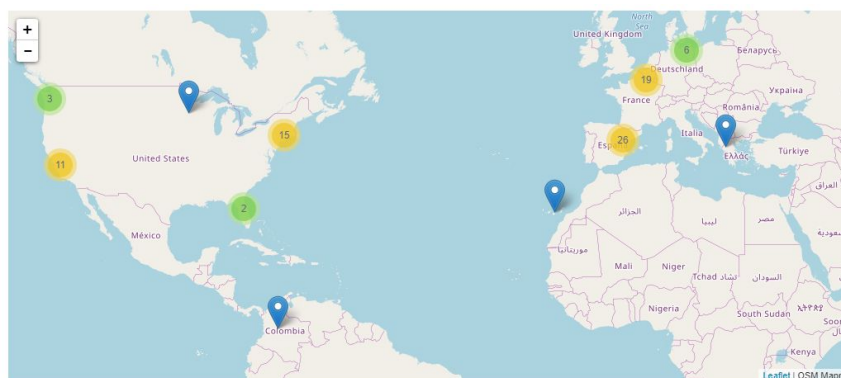


This directory allows searching for cases of peer production and collaborative economy. It is a useful tool to identify areas of activity, best practices, potential projects to collaborate with, etc. http://directory.p2pvalue.eu

○ **Platform Labour in Urban Spaces (PLUS) Database**

Search:

| CASE NAME | CATEGORY | Barcelona | Berlin | Bologna | Lisbon | London | Paris | Tallinn | Type of organization |
|-----------|----------|-----------|--------|---------|--------|--------|--------|---------|---------------------|
| Airbnb | Tourism and housing | 1 | 1 | 1 | 1 | 1 | 1 | 1 | For-profit |
| Alphataxis | Taxi Serivces & Mobility | 0 | 0 | 0 | 0 | 0 | 1 | 0 | Non-profit |
| Badando | Domestic services | 0 | 0 | 1 | 0 | 0 | 0 | 0 | For-profit |
| Bewelcome | Tourism and housing | 0 | 0 | 1 | 0 | 0 | 0 | 0 | Non-profit |
| Bolt | Taxi Serivces & Mobility | 0 | 0 | 0 | 1 | 1 | 1 | 1 | For-profit |

This database allows you to search for Platform Economy cases with presence in Europe from four different sectors: Networked Hospitality Business, Urban Food Delivery, Networked Hospitality Business and Taxi Services. The database consists of a list of 60 platforms which are part of the research developed by Dimmons in the frame of the Platform Labour in Urban Spaces H2020 project.

http://dimmons.net/database-plus/

○ **DECODE**

**Commons qualities in 100 Collaborative Economy Platforms**

Followers

0

🏛 Organisation

DIMMONS

🏛 Dataset    👥 Groups    ⊘ Activity Stream

## Commons qualities in 100 Collaborative Economy Platforms

Data from web collection about 100 platforms of collaborative economy operating in Spain, focusing on aspects of governance, licensing and types of participation.

**Data and Resources**

CSV  Data collection Democratic Qualities in 100 ... 🔥
     Data about: Social media accounts; Year of foundation; Level of maturity;...    ↪ Explore ▾

This database was developed by Dimmons for the H2020 project DECODE. It is a web collection of 100 platforms of the collaborative economy operating in Spain that focuses on aspects of governance, licensing and types of participation.

https://sharingcities.thedata.place/dataset/commons-qualities-in-100-collaborative-economy-platforms

- ○ **Digital Social Innovation (NESTA)**

  ## What does digital social innovation look like in practice?

  Here you can find examples of digital social innovation to inform and inspire you. These case studies give a quick overview of different organisations' and projects' work. You can click through to their websites to find out more.
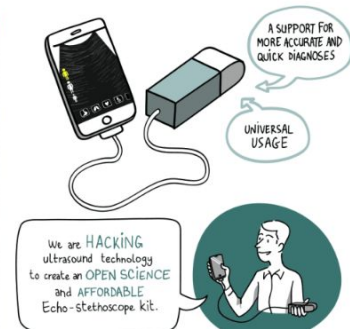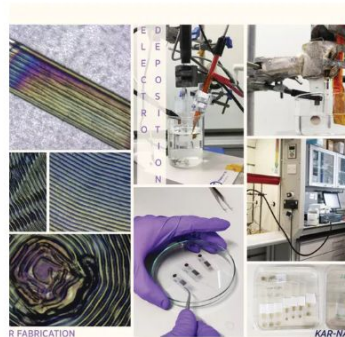
  

  Database of international social innovation projects developed by Nesta for the DSI4EU project that aims to study the emergence of digital social innovation (DSI).

  https://digitalsocial.eu/case-studies

# 6. Toolkits for Platform Design

As an action-research group Dimmons is constantly developing and testing new tools that can contribute to open knowledge and communities of practice alongside its academic activity. In this section, two toolkits developed by Dimmons are shown.

- **Research co-design toolkit**



The research co-design toolkit is addressed to researchers and scientific teams who want to facilitate participatory design processes for the ideation of new projects. It is also addressed to communities or groups that want to investigate, for themselves, topics affecting them or situations that must be solved.

This toolkit is a result of the collaboration between Enric Senabre from Dimmons and Josep Perelló, Isabelle Bonhoure and the rest of the OpenSystemsBCN team co-designing citizen science experiments for the STEM4youth project.

https://doi.org/10.6084/m9.figshare.5331190.v4

○ **A Review of Methodologies for the Design & Incubation of Collaborative Platforms**



The objective of this report, commissioned by Dimmons to the team of the **Platform Design Toolkit,** is to provide a first bird's eye view on the presence, availability and performance of different design frameworks, as well as incubation strategies and contexts regarding a particular class of ventures -intended as market sustainable businesses: Collaborative Platforms (COPs in the text).

The analysis is essentially focused on incarnations of the platform model (and the collaborative mode of production). This model has been central to the development of recent high growth emerging industries defined within the Sharing Economy, Gig-economy, and Collaborative Economy context.

http://dimmons.net/methodologies-for-design-incubation-collaborative-platforms/

# 7. List of Entrepreneurship Programmes

Positive social impact organisations need incubation like any other type of business. In this section, a brief gathering of entrepreneurship programmes that favour democratic organisations is presented.

- **Incubator.coop (Melbourne, Australia)**
  The Co-op Incubator is an Incubator for Member-Owned Enterprises and other innovative ideas that are Co-operatives or companies with a Co-operative Constitution located in Melbourne. This incubator allows projects that aim to become a cooperative to find people interested in collaborating. On the other hand, it offers the opportunity to people who want to get involved  in a project to find one in which their abilities and know-how are valuable.

  https://incubator.coop/

- **La Comunificadora (Barcelona, Spain)**
  La Comunificadora in Barcelona is a programme for collaborative economy projects with a procommon approach which offers a flexible and personalized itinerary that includes training, specialized counseling and participatory and collaborative spaces among projects, adapting it to the needs of the participating project. The program allows projects in the process of creating or consolidating the common dimension with the objective of working a minimally viable project and a defined roadmap.

  https://emprenedoria.barcelonactiva.cat/emprenedoria/cat/programes/la-comunificadora.jsp

- **LET'S ECOOPE (Santander, Spain)**
  The Entrepreneurial Cooperative Experience (ECOOPE) project responds to the objective of raising awareness, interest and knowledge on the values of the co-operative business model and its potential to tackle European youth unemployment. The project is co-funded by the European Union and involves eight institutions from five different European countries (Spain, Italy, United Kingdom, Portugal and Finland) and it is directed to young social entrepreneurs.

  https://youth.ecoope.eu/project/

- **School of Commons (Gent, Belgium)**
  The School of Commons is a polycentric peer learning network sharing and developing practical tools for commoning started by Time Lab. It aims to aggregate practical resources for developing pro-common projects through working on real cases.

Participants learn how to apply 8 patterns to the case in a practical manner so they can easily apply their learnings to their own project.

https://schoolofcommons.be/school/

- **Sharing Economy Startup School (Seoul, South Korea)**
  The Sharing Economy Startup School in Seoul was started by OEC, a centre for entrepreneurship, and the Seoul Metropolitan Government. It helps people to develop business models ideas in the frame of sharing economy. The School reviews business ideas around sharing economy, verifies ideas of would-be entrepreneurs and provides startup consulting every year since 2013.

- **Start.coop (Boston, USA)**
  Start.coop accelerates the growth and development of the next generation of co-operative entrepreneurs with the knowledge, tools, and financing necessary to build their coop in North America. Start.coop is a partner in the Fledge accelerator network which is a global network of socially responsible accelerators and investment funds.

  https://start.coop/

- **The Hive (Manchester, UK)**
  The Hive is a support programme for co-operatives delivered by Co‑operatives UK in partnership with The Co‑operative Bank. From renewables to retail, sports to social care, the Hive can support organisations through online advice and mentoring.

  https://www.uk.coop/the-hive/

# 8. Conclusions

During the last years, the Platform Economy (PE) has grown rapidly and exponentially in the major cities around the world. Although, some of the best known businesses are having controversial impacts such as gentrification and underpayment of goods and services while contributing to a steady increase of low-paid jobs and a huge public controversy (Codagnone et al., 2016), other PE organisations are contributing to the sustainable development of society. The latters point significantly out  the PE' potential in contributing to sustainable development (Botsman & Rogers, 2010; Cohen & Kietzmann, 2014; Heinrichs, 2013).

In this report, a framework for differentiating business models within the PE as well as their potential socioeconomics impacts has been introduced. This framework named *"The Star of Democratic Qualities of Digital Platforms"* aims to become a tool for researchers, policy-makers, as well as, any other type of agent interested in  deciding which models should be promoted and/or funded depending on their potential to contribute to a fairer sustainable development of society.

This report contributes to addressing this challenge by providing a multidisciplinary framework for platform' differentiation. Contrary to previous research, this report considers questions related to technological and economic aspects while integrating other sustainability relevant questions, such as environmental impact, gender equality and social inclusion, and legal implications.

This report has also offered a differentiation of concepts surrounding the Platform Economy. Although terms such as "platform economy", "sharing economy", "gig-economy", "collaborative economy", among others, have often been used to describe the same phenomenon (Juntunen, 2017), they do not exactly mean the same thing. Then, some of the indicators that allow differentiating Platform Economy business models are presented. Next, in order to show the applicability of Star of Democratic Qualities of Digital Platforms a brief analysis of several cases of positive impact platforms in Europe is shown. Finally, a short gathering of entrepreneurship programmes for collaborative platforms, some bibliographical references, and a set of resources for platform design and evaluation are presented.

# 9. Selection of Relevant Bibliography and Cited References

In this section a compilation of relevant bibliography is done, in the cited references during the report are included. This compilation is separated in the following topics:

- Understanding the Concepts: Platform Economy, Sharing Economy and Collaborative Economy. Is Everything the Same?
- The Cooperative Business Model
- Model Differentiation in the Platform Economy
- Policymaking for the Platform Economy

**Understanding the Concepts: Platform Economy, Sharing Economy and Collaborative Economy. Is Everything the Same?**

Aigrain, P. (2012). *Sharing: Culture and the economy in the internet age*. Amsterdam University Press.

Botsman, R. & Rogers, R. (2010). What's Mine Is Yours: How Collaborative Consumption Is Changing the Way We Live. New York: Harper Collins.

Codagnone, C.; Biagi, F. & Abadie, F. (2016). The Passions and the Interests: Unpacking the 'Sharing Economy' [online]. Institute for Prospective Technological Studies, JRC Science for Policy Report EUR 27914 EN. DOI: 10.2791/474555. [Accessed: October 24, 2018]. <https://publications.europa.eu/en/publication-detail/-/publication/552494a4-2ece-11e6-b497-01aa75ed71a1/language-en>

Davidson, N., & Infranca, J. (2016). The sharing economy as an urban phenomenon. *Yale Law & Policy Review, 34*(2), 16-10.

Dillahunt, T. R. & Malone, A. R. (2015). "The Promise of the Sharing Economy among Disadvantaged Communities". CHI '15. Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems, pages 2285-2294.

Fuster Morell, M. (2010). Participation in online creation communities: Ecosystemic participation. In *Conference Proceedings of JITP 2010: The Politics of Open Source*, *1*, 270-295.

Fuster Morell, M.; Salcedo, J. & Berlinguer, M. (2016). "Debate about the Concept of Value in Commons-Based Peer Production". INSCI 2016, Lecture Notes in Computer Science series (LNCS) 9934 Proceedings. Florence 12-14 Firenze. [Accessed: October 24, 2018]. <https://papers.ssrn.com/sol3/papers2.cfm?abstract_id=2842537>

Heinrichs, Harald (2013). "Sharing economy: A potential new pathway to sustainability". *GAIA - Ecological Perspectives for Science and Society*, 22(4): 228-231.

Holman, J. & McGregor, M. A. (2005). The Internet as commons: The issue of access. Communication Law and Policy, 10(3): 267.

Humphreys, A., & Grayson, K. (2008). The intersecting roles of consumer and producer: A critical perspective on co-production, co-creation and prosumption. *Sociology Compass, 2*(3), 963-980. doi:10.1111/j.1751-9020.2008.00112.x

Juntunen, R. (2017). Does the worker have a say in the platform economy? Final report. Retrieved from www.sak.fi/mahikset

Khan, L. (2018).What makes tech platforms so powerful. In Rolnik, G. (Ed.) *Digital platforms and concentration*, p. 16. Retrieved from: https://promarket.org/wp-contaent/uploads/2018/04/Digital-Platforms-and-Concentration.pdf

Ostrom, E. (2008). "Design Principles of Robust Property-Rights Institutions: What Have We Learned?". In. K. Ingram, G. & Hong, Y. H. (Eds.), Property Rights and Land Policies, Cambridge, MA: Lincoln Institute of Land Policy.

Parguel, B.; Lunardo, R. & Beinot-Moreau, F. (2017). "Sustainability of Collaborative Consumption in Question: When Second-hand Peer-to-peer Platforms Stimulate Green Consumers' Impulse Buying and Overconsumption". Technological Forecasting and Social Change, 125(C): 48-57

Ranchordas, S. (2015). Does sharing mean caring? Regulating innovation in the sharing economy. *Minnesota Journal of Law, Science & Technology, 16*(1), 413-475.

Richardson, L. (2015). "Performing the Sharing Economy". Geoforum, 67, 121.

Schor, J. (2014). "Debating the Sharing Economy". Great Transition Initiative, October 2014. [Accessed: October 24, 2018]:
<https://www. greattransition.org/publication/debating-the-sharing-economy>

Schor, J. B. & Fitzmaurice, C. J. (2015). "Collaborating and Connecting: The Emergence of the Sharing Economy". In: Reisch, L. A. & Thøgersen, J. (Eds.). Handbook of Research on Sustainable Consumption, pages 410-425.

Schor, J. B. (2017). Does the sharing economy increase inequality within the eighty percent?: findings from a qualitative study of platform providers. Cambridge Journal of Regions, Economy and Society, 10(2), 263-279.

**The Cooperative Business Model**

Birchall, J. & Ketilson, L. H. (2009). Resilience of the Cooperative Business Model in Times of Crisis. Geneva: International Labour Organization

Bollier, D. (2008). Viral spiral: How the Commoners Built a Digital Republic of their Own. New York: The New Press.

Delbono, F. & Reggiani, C. (2013). "Cooperative Firms and the Crisis: Evidence from Some Italian Mixed Oligopolies". Annals of Public and Cooperative Economics, 84. Bologna: Dipartimento Scienze Economiche, Universita' di Bologna

Fuster Morell, M. (2017). "Towards a Theory of Value of Platform Cooperativism". In Scholz, T. & Schneider, N. (Eds.). Ours to Hack and to Own. The Rise of Platform Cooperativism. A New Vision for the Future of Work and a Fairer Internet. New York: OR Books.

Roelants, B.; Dovgan, D.; Eum, H. & Terrasi, E. (2012). The Resilience of the Cooperative Model. CECOP-CICOPA.

Scholz, T. (2016). Platform Cooperativism. Challenging the Corporate Sharing Economy. Berlin: Rosa Luxemburg Stiftung.

Scholz, T. & Schneider N. (2016). Ours to Hack and to Own: Platform Cooperativism. A New Vision for the Future of Work and a Fairer Internet. New York: OR Books.

**Model Differentiation in the Platform Economy**

Cohen, Boyd & Kietzmann, Jan (2014). "Ride On! Mobility Business Models for the Sharing Economy". *Organization & Environment*, 27(3): 279-296.

Imperatore, P. & Fuster Morell, M. (2018). Inclusion and discrimination at the platform economy: A gender focus. Sharing Cities. A worldwide cities overview on platform economy policies with a focus on Barcelona. Fuster Morell, M. (Ed.), 159:165, ISBN: 978-84-945106-9-4. Barcelona: Sehen - Editorial UOC.

Siefkes, C. (2010). "Self-organized Plenty: The Emergence of Physical Peer Production" [online]. keimform.de. Auf der Suche nach dem Neuen im Alten. [Accessed: October 24, 2018]. <http://keimform.de/2010/selforganized-plenty/>

Simon, J. P. (2016). *How to catch a Unicorn: An exploration of the universe of tech companies with high market capitalisation* (No. JRC100719). Joint Research Centre (Seville site).

**Policymaking for the Platform Economy**

Ganapati, S., & Reddick, C. (2018). Prospects and challenges of sharing economy for the public sector. *Government Information Quarterly*, *35*(1), 77-87.

Miller, S. (2016). First principles for regulating the sharing economy. *Harvard Journal on Legislation, 53*(1).

Sunil, J., and Noah, Z. (2015) Policymaking for the Sharing Economy: Beyond Whack-A-Mole. Toronto: Mowat Centre, University of Toronto. Retrieved from: https://munkschool.utoronto.ca/mowatcentre/wp-content/uploads/publications/106_policymaking _for_the_sharing_economy.pdf