

# Cooperative reactions on digital commercial house-sharing tourism, mobility, and digital product streaming platforms

## **Master Thesis**

Faculty of Geosciences

MSc. Human (Economic) Geography, Business and Location

25 ECTS

Word count: 19,635

GEO4- 3922

August 2019



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## Abstract

Airbnb, Uber, and Spotify are household names, nonetheless their negative socio-economic and urban effects are causing global disruption and protests resulting in the emergence of cooperative digital platforms as a reaction. The main research question of this thesis, therefore, asks how cooperative platforms aim to help eliminate these socio-economic and urban effects of commercial house-sharing tourism (Airbnb-Fairbnb), mobility (Uber-Cotabo), and digital product streaming platforms (Spotify-Resonate) in the context of the European and digital international market. To analyse this, the research further investigates 3 sub-questions related to the following topics:

1. The positive and negative socio-economic effect of current commercial platforms.
2. The reaction and potential of cooperative platforms.
3. The expectation of the development of these cooperative platforms on the currently commercially dominated digital market.

The research expects that the commercial giants remain dominant on the market, minimal to no fundamental changes will be made to their business model regarding civil and governmental backlash. Furthermore, without changes in mainstream consumer behaviour, platform network effects, or triple and quadruple governmental helix structures and funding, Fairbnb, Cotabo, or Resonate cooperative alternatives cannot grow into genuine competitors to Airbnb, Uber, and Spotify respectively.

*Key words: commercial platforms, cooperative platforms, digital economy, Airbnb, Uber, Spotify.*

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# 1 Introduction

## 1.1 *Transitioning Economies*

Through their easy use and implementation, commercial digital platforms have quickly grown to be important parts of our daily lives. On demand *house-sharing tourism* (HST), mobility, or *digital product streaming* (DPS) services have become an integral part of the digital economy. Respectively, Airbnb, Uber, and Spotify quickly became the ‘posterchild’ platforms of the digital economy, and now seem to be a fundamental part of our lives. Platform giants like these have been able to rapidly become part of our daily lives; however, due to their fast internalisation, governmental laws and regulations often struggle to keep up with the rapid changes resulting in an unconventional product-regulatory relationship (Frenken et al. 2015). As a result, the effect these commercial companies have on individuals and cities is often poorly regulated (Quattrone et al., 2016). HST platform Airbnb began as a *peer-to-peer* (P2P) platform connecting travellers to people with a spare bed or a room. As the company itself does not own any real estate but rather provides the digital platform that connects people, its worldwide use and popularity have grown extremely fast since its launch in 2008 to having about 150 million users and 6 million listings today (Smith, 2019). Similarly, Uber and Spotify connect riders to drivers and listeners to artists without owning a car nor music rights.

The three commercial platforms are currently ranked highest in their respective category: P2P rental of short-stay tourism, taxi mobility services, and music streaming services. The platforms are regarded as the epitome of the digital sharing economy pushing the boundaries of a new economic frontier. The platforms provide easy digital income though all three struggle with backlash from society concerning their negative effects on socio-economic and urban spheres. Local people and governments struggle with Airbnb as it neglects its effect on urban disorder, decreases local housing availability, breaks social fabric in neighbourhoods, and increases cases of fraud and tax evasion. Backlashes on Uber’s services concern the increasing competition with existing and regulated taxi services, safety of drivers and riders, and tax evasion. Artists and record labels on Spotify question the platform’s fairness and transparency concerning devastatingly low royalties and creative limitations of artists.

As a reaction to these commercial giants, cooperative initiatives aim to provide fairer, more ethical, and more transparent alternative platforms. Fairbnb, Cotabo, and Resonate are three established (Cotabo and Resonate) and establishing (Fairbnb) cooperative platforms that aim to solve the negative effects put forth by their commercial counterparts. This thesis aims to analyse the development of the commercial platforms and the reaction of the cooperative platforms thereon, specifically by using the wider context of Airbnb, Uber, and Resonate in the European and the international digital economy.

## 1.2 *Scientific and Social Relevance*

Digital provision of goods and services platforms are taking the digital market by storm. Due to the ease at which such platforms can be set up through already established infrastructures, e.g. satellites and telecommunication devices, these are rapidly becoming significant competitors to traditional services. Commercial platforms, which seek profit through new means of exploitation through new digital platforms and markets, show increasing impacts on

the city and its people, and are a relatively new topic in the field of socio-economic geography. Their fast implementation and increasingly large impacts on the environments they take place in have caused for a reverse technology assessment causing governments to lag on implementing regulatory and monitoring measures. In the case of Airbnb, Uber, and Spotify, laws and regulations are debated and implemented only after negative externalities of the platform's implementation are revealed. Several academic articles analyse the local positive and negative externalities of Airbnb and Uber and its connection and development of the sharing and gig economy as a starting point. However, analysis of cooperative reactions thereon is underdeveloped. Therefore, this research analyses three of such cooperative platforms and their potentials in the context of European and digital international economies.

Concerning social relevance, the sharing and gig economy are becoming an increasingly more integrated part of daily life. The internet has facilitated stronger and faster connections between people, products, and places. Initially the services of the commercial giants aimed to bring people closer by providing easy, fast, and on-demand services between peers, i.e. P2P services. Today it has led to increasing competition between pre-existing traditional services and the newer digital platforms, resulting in unrest and economic insecurity. For governments to effectively draft new laws and regulations concerning the phenomenon of digital commercial platforms as a means of income and products or services, the effects of them on different aspects of society must be researched. Furthermore, the real effects of cooperative platforms must also be analysed to determine their potential on the digital market. Particularly, as Airbnb and Uber listings and taxis are easily set up, the number of places and vehicles has grown almost uncontrollably, making it very complicated for (local) governments to regulate and monitor. There are often disruptions between users (hosts and drivers alike) and the rest of the neighbours. Governmental decisions are behind on Airbnb's and Uber's developments and must keep up pace to ensure socio-economic balance between the providers and the rest of the city's inhabitants.

### *1.3 Aim of Research and Research Questions*

The aim of this research is twofold: 1) to investigate and provide an overview of the socio-economic and urban impacts of commercial digital platforms in HST (Airbnb), mobility (Uber), and DPS (Spotify) services; 2) to analyse the reaction of cooperative platform alternatives on the negative socio-economic and urban impacts of commercial platforms and how they aim to combat these. It provides a detailed literature review and addresses current knowledge gaps and challenges. The main research question is as follows:

*How can cooperative platforms help eliminate current socio-economic and urban effects of commercial house-sharing tourism, mobility, and digital product streaming platforms in context of Europe and the global digital market?*

The main research question investigates the current commercial business models of HST, mobility, and DPS platforms, and the potential of developing cooperative platforms towards eliminating the current negative socio-economic and urban constraints of Airbnb, Uber, and Spotify in the rising digital platform economy. Three sub-questions guide the research:

- I. What socio-economic and urban effects do Airbnb, Uber, and Spotify have on European and digital global markets?
- II. What are digital cooperative platforms, how are they a reaction to commercial platforms, and what potential do they hold for European and global digital markets?

### III. How are cooperative platforms expected to develop in the changing (digital) world market currently dominated by commercial platforms?

These sub-questions investigate different aspects of the commercial and cooperative business models in the three chosen themes: 1) HST, 2) mobility, and 3) DPS platforms. The first sub-question analyses the current known effects of the commercial platforms of Airbnb, Uber, and Spotify, which are investigated in the theoretical framework (Chapter 2.2). The first two platforms are investigated as a geographic case study in European context (the Netherlands and Italy), while the latter, Spotify, is investigated at a non-geographic scale.

The second sub-question investigates the reaction and creation of cooperative platforms onto the established commercial platforms, investigating their economic nature and their goals, and investigating what, if any, the potentials are of such alternative cooperative platforms in the three aforementioned themes. The last part of the question, concerning the potential these cooperative platforms have in the European and global digital market, is analysed using three examples of established or recently developed cooperative platforms for each theme. It provides a detailed account on their economic nature, challenges, and their goals and expectations regarding their infiltration into the global market as a non-commercial alternative.

Using the third sub-question, the research provides several predictions on the development of commercial and cooperative platforms in a global form using the three themes.

#### *1.4 Reading Guide*

The following chapter (2) analyses the current academic debate surrounding commercial platforms and the emergence of cooperative platforms in the context of the global platform economy. Sub-question 1 and 2 form the base of this chapter. Concerning the former, currently known effects, both positive and negative, are analysed per theme: HST (Airbnb), mobility (Uber), and DPS platforms (Spotify). The latter explores the phenomenon of cooperative platforms, their economic nature and business models, pillars, goals, their reaction towards the assumptions (2.4), and finally the main hypothesis (2.5) of the research is discussed.

Chapter 3 discusses the conceptual model, research framework, and research context.

Chapter 4 analyses the effects of commercial platforms on European contexts (e.g. the Netherlands and Italy). Distinguishing negative and positive socio-economic and urban effects, the reactions of three chosen cooperative platforms on their commercial counterparts are analysed in a European and digital global context. Fairbnb, Cotabo, and Resonate are introduced and their perceived plan-of-action to eliminate the effects of commercial platforms are further analysed. The last part of the chapter explores the relationship between cooperative development and governmental innovation centres exploring the concepts of the triple and quadruple helices. The latter part of sub-question 2 is used in this analysis.

In Chapter 5 the third sub-question is used for forming predictions and paves the way to answering the main research question. The chapter proposes several predictions concerning 1) the further development of commercial HST, mobility and DPS platforms, 2) the potentials of cooperatives in the three themes, and 3) the potential and predicted development of cooperatives in Europe as well as at the scope of the global digital market. The predictions are based upon theoretical foundations, previous academic literature, and primary data collection during this research concerning the three cooperative platforms. Although two cooperatives are physically focused primarily on the European environment (Fairbnb and

Cotabo), the predictions contribute to a larger academic debate and can be used for private and governmental consultancy.

Chapter 6 discusses the development of cooperative platforms on commercially dominated global digital markets and uses the main hypothesis and the three cooperative alternatives to answer the main research question.

## 2 Platform Economies, Established Structures and New Trends

### 2.1 On-demand sharing, gig, and the platform economy – what's the difference?

Due to the rapid development of technology and changing business models, new business models have embraced digitalisation of the market as well as the digitalisation of the daily lives of individuals. The 'sharing economy', 'gig economy', and platform giants such as Uber and Airbnb have become normal words in daily conversations: i.e. "to get an Uber or book an Airbnb" replacing "getting a taxi or booking a hotel". However, due to their newness, their emergence and definitions are still developing. Although both the sharing and gig economy often pop-up simultaneously in the debate concerning the new economy, they are not interchangeable. The sharing economy defines the "act of consumers granting each other temporary access to under-utilized physical assets, that are in idle capacity, possibly for money" (Frenken et al. 2015). The gig economy is not per se new, as casual freelance work arrangements were typical during the 20<sup>th</sup> century (Kalleberg & Dunn, 2016). However, the gig economy discussed in the most current debate, and this thesis, refers to the digital version of the gig economy, which is indeed an emerging phenomenon.

The (digital) gig economy is described as the "collection of markets that match providers to consumers on a gig (or job) basis in support of on-demand commerce through an internet-based technological platform or smartphone application that allows them to search for providers or to specify jobs" (Donovan, Bradley, and Shimabukuru, 2016). These gig economy jobs are "generally characterized by short-term engagements among employers, workers, and customers" (Kalleberg & Dunn, 2016). Similarly, the platform economy "encompasses a growing number of digitally enabled activities in business, politics, and social interaction, [which contain] mixtures of software, hardware, operations, and networks" (Kenney & Zysman, 2016). The term 'platforms', as used in this research, describe a digital platform on which two or more groups can interact and exchange goods and services. Therefore, firms that provide platforms for customers, advertisers, and providers can interact on and exchange services and physical objects (Srnicsek, 2017).

### 2.2 Established Trends: Commercial Platforms

The embodiment of capitalism and commercialism tend to reform when crises occur or when new technologies are introduced. Similarly, the establishment of (online) commercial platforms have resulted in a new way commercialism is expressed, especially with the formation and embodiment of the online sharing and gig economy. Commercial platforms entail that online firms use these new digital platforms and the upcoming online sharing and gig economy to "seek out new avenues for profit, new markets, new commodities, and new means of exploitation" (Srnicsek, 2017). It is composed of built-in tendencies to move towards extracting rents by providing (new) services, and act as a new type of firm. The rise of easy access internet through established infrastructures, the constant renewal of internet related technologies, and the rise of the sharing and gig economy through the existing commercial system have given cause for the creation of these commercial platforms. While heavily relying on the existing commercial business models, the platforms have given rise to new business models that are "capable of extracting and controlling immense amounts of data" (Srnicsek, 2017). Current big players are Google, Facebook, and Amazon, as well as dynamic start-ups



such as Airbnb and Uber, whose size is reflected in a global shift towards the rise of large monopolistic firms.

The examples of these commercial platforms have one main aspect in common: they act as digital intermediaries through digital infrastructures that bring together different parties, whether that be users, advertisers, service providers, producers, suppliers, or physical objects (c.f. Srnicek, 2017). Although there is not yet a clear definition of digital platforms due to its newness, the debate surrounding this is complicated due to specifying what exactly falls in or out of these categories (cf. Kenney & Zysman, 2016). However, there is progress towards defining four main characteristics that define these platforms: digital infrastructure, network effects, advertising, and extrapolation of data. First, as mentioned previously, the characteristic of digital infrastructure that enables two or more groups to interact, means that the company owns the platform rather than producing a physical product, reflecting a new 'product' in the digital market. The second concerns monopolistic tendencies through network effects, which describes the success or failure of a (new) platform through the number of users: the more people use the platform, the more valuable the platform becomes. Third, the platforms use the tactic of cross-subsidization to ensure more users come on board in which the platform provides the service for free but uses advertising to cover the costs of the provision. Google (Gmail) and Facebook are typical examples of these. Fourth, the platforms are designed to be attractive in order to attract varied users through embodied politics which make them key business models for extracting and controlling data (cf. Kenney & Zysman, 2016).

There are five types of platforms: advertising, cloud, industrial, product, and lean platforms. Although there are currently five different types of platforms, these are often found together in one company. *Advertising platforms* (e.g. Google), as the name suggests, extract information from users, analyse it, and build their profit model on (user-specific) advertisement. Furthermore, there are "platforms that make digital tools available online and support the creation of other platforms and marketplaces" (Kenney & Zysman, 2016). These platforms are referred to as cloud and industrial platforms. While *cloud platforms* (e.g. Google or IBM Bluemix) rent out hard- and software of digitally dependent businesses, *industrial platforms* (e.g. Philips or Siemens) build this hard- and software in order to support the transition from traditional manufacturing to internet connected processes. *Product platforms* provides goods by collecting rent or subscription fees, such as Spotify and Netflix. Lastly, *lean platforms* run their business model on reducing the firm's "ownership of assets to a minimum and to profit by reducing costs as much as possible" (Srnicek, 2017). Airbnb, Uber, and Spotify are examples of these, in which the firms rent out goods (rooms, cars, and music) they do not own themselves.

Looking more closely at lean platforms, such as Airbnb, Uber, and Spotify in the context of this thesis research, they are built on outsourcing in new areas by depending on freelancers and independent contracting. Not only does this widen their labour pool, it also cuts costs. In the United States of America, this new type of outsourcing to freelancers allows such companies to save around 30% on labour costs through saving money on benefits, health care, overtime, and sick days. Although freelancing provides new economic opportunity for the workers, it causes for challenges to existing (offline) structures as well as problems with insurance of the freelancers themselves. All over the world there have been protests from both sides: the workers of the lean platforms requiring improved working conditions and more rights, as well as the workers of existing structures who believe the creation of the platform is harming their own business. In the Netherlands alone there have been various protests in

recent years concerning the business models of these platforms. In 2017, various Dutch Deliveroo drivers protested the freelance model (Changoer & Hoogendoorn, 2017). In early 2019 Dutch Uber drivers as well as taxi drivers have protested either against the worker rights of Uber drivers or Uber as a whole, respectively (Kruyswijk, 2019a; Kruyswijk, 2019b). The popularity of such lean platforms is due to the increasing need for more employment opportunities due to surplus populations as well as the post-2008 economic crisis employment dip, the overall trend of the digitalisation of life, and the formations of cloud platforms enabling the interaction between digital companies and freelancers. These lean platforms provided easy access to employment through already established digital infrastructure, e.g. satellites and telecommunication devices, resulting in their rapid growth worldwide. Platform giants like Uber and Airbnb have provided easily accessible (extra) income opportunities for people who own (previously) idle or underutilized rooms, houses, or vehicles.

The easy and fast application of these platforms have led to their rapid internalisation; however, they harbour an unconventional product-regulatory relationship. Previously, regulations provided boundaries in which companies could produce products for the market after intensive research and development. Now in the digital platform economy, anyone or any firm can create a new digital product or application and launch it onto the market without (previous) research, high start-up costs, or risk. The problem with the former, is that it often holds back innovation and creativity, while the latter limits the authority of governmental bodies regarding regulation and laws. Through digital platforms, companies “put products out there for minimal costs and see how the market reacts” (Frenken, 2018). If the application deems successful and is integrated into the daily lives of the people, its positive and negative effects can become visible, after which governmental bodies lobby towards initial laws and regulations, after which research shows the true effects and in turn the laws and regulations are sharpened (c.f. Frenken, 2018). This means that due to the digital platform economy, firms can traverse national regulatory measures easily through the digital landscape and only when the new product is shown to create negative effects, the governments must lobby towards alerting laws and regulations through research.

### *House-sharing tourism: Airbnb*

The following section seeks to investigate Airbnb and its impacts on the individual, the host, the community, and the neighbourhood in which the listing<sup>1</sup> is located. Table 1 outlines the socio-economic impacts of Airbnb, amongst others, on the two levels, indicating whether literature states it to harbour a mostly positive or negative effect of the digital hospitality platform with the green (positive), orange (effect has intertwined positive and negative effects), and red (negative) shading in the third column.

The founders of Airbnb based the idea to connect people who have space to spare with those who are looking for a place to stay on the former popular Couchsurfing P2P platform. Founded in 2003, Couchsurfing, once was the world’s largest hospitality and social networking service. In 2019 it counts over 12 million members (Couchsurfing, 2019); however, Airbnb’s 150 million members quickly overshadow the platform. It was founded to provide a networking platform to initiate contact between strangers to share homes for short stays (ibid). In 2008 Airbnb joined the short-stay hospitality market and since then climbed up to the 2<sup>nd</sup> largest website for travel and tourism, behind Booking.com (Similarweb, 2019a).

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<sup>1</sup> ‘Listing’ is a term on Airbnb given to a room or apartment that is available for rent.

The impacts that arise from the growth of Airbnb listings in cities take effect at predominantly the community level. Table 1, page 15, outlines these effects. In the individual section, the difference between the individual as a host (H) and a traveller (T) is distinguished.

Originally Airbnb aimed to provide a digital platform between people with unoccupied rooms or spaces for extra mattresses. Airbnb quickly grew to accommodate groups of people in whole houses without even meeting the owner. The initial intentions of the platform aimed towards positive impacts on social, economic and health aspects of an individual. At an individual level Airbnb has social, economic, and health effects for both the host and the traveller, as described in the table.

Socially, for both the host and the traveller, the platform provides networking between people who would otherwise never meet. LearnAirbnb, an Airbnb-help website independent from Airbnb, states that “the most rewarding thing about being a host is that you get to meet many interesting guests [...] gaining perspective from another individual from different walk of life. You get to realize how different, yet how similar everyone is. Airbnb is helping create friendships that would have never existed, and very few social platforms allow you to create a personal and meaningful connection with someone who lives 10,000 miles away.” (LearnAirbnb, n.d.). However, this socio-cultural gain can be more or less disregarded as many listings on the platform do not require hosts and travellers to meet at all.

Intertwined with the health effects, the use of the platform can aid residents to find a sense of purpose as well as introduce travellers to their living area, who, without the listing, would most likely not travel to neighbourhoods outside of the touristy city centre, which provides another benefit for travellers. Furthermore, providing listings on Airbnb can help the host develop personally through “learning about the hospitality service, guest service, finance, and marketing” (LearnAirbnb, n.d.).

Economically, both the host and traveller benefit. First, through providing previously idle rooms or houses as a rentable stay, the hosts can earn extra income. The HST platform provides the opportunity for financial gain which in turn allows for other economic opportunities such as livelihood diversification. The effect is stated to have both intertwined negative and positive effects (see table 1), as the platform allows for extra income for many households, but in the long-term does increase the rent in the surrounding area and creates dependency on Airbnb for income, while being directly impacted by indirect changes in rules and regulations. For example, Airbnb gained popularity in New Orleans due to the increasing rent prices and due to Airbnb’s easy installation, which provided easy income for many households out of necessity. However, the intended P2P (short-stay vacation) rental market has “spurred larger investors to purchase and convert properties into short-term rentals” which ultimately lead to a vicious cycle of increasing property prices, leading to more out-of-necessity Airbnb listings and lead to affordable housing crises in many cities (Johnson, 2015). The travellers also benefit from Airbnb over hotel and hostel provision through providing relatively cheap hotel alternatives. Often Airbnb rooms provide more money’s worth on spaciousness and privacy (i.e. when renting a whole house or apartment) than hotel counterparts.

At community level, social impacts of Airbnb are three-fold. First, the creation of noise, loitering, and pollution of tourists in previously predominantly residential areas causes unrest, as most listings are in residential areas with previously low number of tourists as it is regarded as a cheaper alternative and boost local experience. Second, the increasing number of short-stay tourists in (residential) neighbourhoods causes an increased disconnect between neighbours from their neighbourhoods, while the number of short-term tourists increases and

Table 1: Impacts of Airbnb at Individual and Community Level

Level	Category	Sub-Category	Some noteworthy sources*
Individual	Social	H & T: Networking	LearnAirbnb (n.d.).
		T: Getting to know a local area which is less popular among tourists	
		H & T: Personal development	LearnAirbnb (n.d.).
	Economic	H: Income (extra or out of necessity)	LearnAirbnb (n.d.). Johnson (2015: 193).
		T: Cheap alternative for hotels	
		H: Changing Livelihoods/ diversification	LearnAirbnb (n.d.).
	Health	H: Sense of purpose	LearnAirbnb (n.d.).
Community	Social	Disconnection between neighbourhoods	Jordan & Moore (2017).
		Creation of noise, loitering, pollution	Jordan & Moore (2017).
		Digital racism	Edelman, Luca & Svirsky (2017).
	Economic	Provide new tourism-related job opportunities	Airbnb (2013).
		Income redistribution	
		Community revenues	Van der Zee (2019). Airbnb (2013).
		Disrupt housing availability	Lee (2016). Koster, Van Ommeren & Volkhausen (2018).
		Competition with traditional hotel industry	Ioannides, Röslmaier & Van der Zee (2018).
		No additional tourist/income tax	
	Political	Unregulated and unlicensed rentals	Gemeente Amsterdam (2014).
		Fraud	AT5 (2018).
	Urban/Environmental	Housing/building competition	Koster, Van Ommeren & Volkhausen (2018).
		Airbnb tourists stay longer in less touristy areas	Quattrone, et al. (2016). Tussyadiah & Pesonen (2016). Van der Zee (2019) .
		Increasing housing prices	Koster, Van Ommeren & Volkhausen (2018).
		Change socio-cultural composition of neighbourhoods: 'ghost town' after tourist season is over	Johnson (2015).
	Displacement, gentrification, segregation	Lee (2016). Füller & Michel (2014).	

\*If there is not a source listed in the third column "Some noteworthy sources", the item is supported by many sources and the research does not distinguish one specific article.

number of actual neighbours (long-term residents) decreases. Similar to the New Orleans case previously stated, this is caused and reinforced by increasing rent prices and personal interest in renting out their own house to tourists for income, which leads to economic impacts of Airbnb listings in cities. The increasing number of short-stay rentals disrupts the local and affordable housing availability which leads to increasing housing competition, especially for locals and commercial stakeholders which are building property to rent out to tourists (Lee, 2016; Koster, Van Ommeren & Volkhausen, 2018). Third, various studies show there is an increase in digital racism on platforms such as Airbnb (cf. Rutkin, 2016). Locals in Oahu, Hawaii, stress that besides the changing property values, increased traffic, noise and other nuisances, disruption of the community, security, and the character of the area are threatened by replacing long-term neighbours with short-term strangers (Jordan & Moore, 2017). Despite Airbnb's non-discrimination policy, digital discrimination has nested in Airbnb, as landlords and users alike use names, genders, and profile pictures to alter daily rates (Edelman & Luca, 2014). Other studies show that guests with distinct African American names are "16 percent less likely to be accepted relative to identical guests with distinctively white names" (Edelman, Luca & Svirsky, 2017). Furthermore, Airbnb providers are often not trained in the service industry nor regulated by it, providers do not pay national taxes on their incomes like other hotels and Bed & Breakfasts do, and due to zoning restrictions, Airbnb is not legal everywhere, which if provided in restricted areas, leads to illegal renters and fraud.

Regarding economic factors, an increasing number of Airbnb listings in neighbourhoods also leads to more opportunities in tourism-related employment, income redistribution, and community revenues. In 2013 Airbnb published a report stating how the platform was making the economy in Amsterdam stronger (Airbnb, 2013). The study states that "the Airbnb community in Amsterdam helps residents and small businesses benefit from tourism" and provides extra income (ibid.). The study shows 36% of the hosts use the income to cover their housing costs and own living expenses, while 30% used the money to fund new businesses or projects (ibid.). Furthermore, the study shows Airbnb tourists tend to stay between 3.9 and 4.3 nights, compared to 1.8 nights for normal hotel tourists, and spent 1.4 times as much money: €729 and €521 respectively (ibid; Van der Zee, 2019; Tussyadiah & Personen, 2016). Another study by Airbnb states a collaboration between Airbnb and the municipality of Amsterdam to make "Amsterdam's economy even stronger [*by proposing*] new progressive policies that [...] show the city's commitment to promoting the growth of the sharing economy [*and*] innovation" (Airbnb, 2013).

Airbnb is often considered a big competitor to the traditional hotel industry. While some studies show a slight decline in hotel occupancies, these declines are not solely due to Airbnb (Mody, Seuss & Dogru, 2017). Other studies state that the competition between traditional tourism accommodations and Airbnb has taken an unhealthy turn as the number of Airbnb listings are declining the occupancy rate in existing hotels (Ioannides, Röslermaier & Van der Zee, 2018). Whether the listings do indeed lead to hotel unoccupancy in a city is a complex study, as it involves many different factors besides Airbnb occupancy, and can therefore vary from case to case. A study in Texas showed the hospitality sector lost 13% income revenue due to Airbnb's popularity (Hospitality Management, 2017). Furthermore, Airbnb is shown to have a negative impact on local housing availability and local income and tourist taxes. A 2016 study on Los Angeles' affordable housing crisis showed how short-stay tourism, such as Airbnb, "reduces the affordable housing supply by distorting the housing market [*as*] a housing unit [*is removed from potential rental unit and is*] added to Los Angeles's supply of hotel rooms which [*spurs*] displacement, gentrification and segregation" (Lee, 2016). As economic

exchange through Airbnb happens in the cloud and user privacy becomes complicated, governments are faced with difficulties when monitoring and regulating income. Chapter 4.1 analyses the Airbnb-governmental tourist tax dynamic in the context of the Netherlands, as one of the first countries to include such tax concerning Airbnb.

The political impact of Airbnb listings is predominantly negative, understanding the main impacts of unregulated rentals, unlicensed hospitality accommodations, and easy fraud opportunity for locals. For the former, rules and regulations succeed the institutionalization of the use of Airbnb in neighbourhoods and daily life. For the latter, committing fraud through Airbnb is fairly easy as Airbnb cannot check whether listings on the platform actually exist, whether the photos on the platform reflect the listing in real life, or whether one listing is rented out multiple times but put as different listings (AT5, 2018). Although Airbnb states 87% of the hosts in Amsterdam in 2013 live in the listing they rent (Airbnb, 2013), there is no way for the company, nor the municipality, to check due to new privacy laws. These negative externalities show the (intended or not) impacts of the platform have grown uncontrollably for governments to regulate. As mentioned previously, the platform economy provides a reverse technology assessment in which governmental regulations for a new product are made after the product has been introduced to a market and its negative effects become visible. Currently, regional governments are striving towards better regulation concerning Airbnb listings to compete against various types of fraud and misuse. Furthermore, after steps were taken towards better regulation, e.g. a listing can only be rented out 30-60 days per year, by advertising the same location as different listings, this rule can be evaded. These evading income practices have been made easy through the easy-access digital platform, easy (re-)registration, new privacy laws prohibiting 3<sup>rd</sup> parties to access data, and more.

Urban impacts of Airbnb rentals occasionally overlap with the previous factors but remain just as important. Firstly, and as mentioned previously, due to the abundant number of listings the housing and building prices increase as well as local/regional competition. Although the initial idea of the Airbnb founders was for an individual to rent out an otherwise idle room, now commercial stakeholders buy entire houses to rent out to tourists, which leads to changing socio-cultural compositions of neighbourhoods (Koster, Van Ommeren & Volkhausen, 2018; Johnson, 2015). Tourist rich cities like Barcelona, New Orleans, and San Francisco are seeing the rapid changes occur due to Airbnb. Besides economic impacts, the study states that the socio-cultural character of the neighbourhoods change and ultimately leads to 'ghost towns' with vacant properties after tourism season ends (Johnson, 2015). Furthermore, higher rent prices and unattractive local socio-cultural character lead to the displacement of locals, tourist gentrification, and segregation, which further exacerbates the rent prices and housing availability as the Airbnb listing is removed from local rental housing markets (Lee, 2016; Füller & Michel, 2014).

### *Mobility: Uber*

The current mobility structures are challenged by two upcoming trends. The first trend sees an increase in popularity for car sharing and the related rise in *mobility as a service* (MaaS). In recent years the global economy has flooded with digital platforms connecting users in order to share things. In the Netherlands, there are approximately 8 million cars, 14,4 million parking spaces, however, on average cars are in use only 1 hour of the day (Deloitte, 2017). If car sharing becomes the norm in the Netherlands, approximately 7 million parking spaces can be replaced with other functions, e.g. 45,000 houses and 11,7 million trees (ibid.). In already

crowded areas with still growing populations, car sharing holds much potential. Car sharing is a broad term for changes in consumer behaviour, demand, and supply by other stakeholders including companies providing the soft (software, app, etc.) and hard products (car, parking spaces, etc.) and governmental bodies, facilitating connections between public transport and semi-private transport options. The latter, concerning governmental involvement of digital organization of mobility, refers to MaaS, in which governmental actors provide a digital platform on which personalized end-to-end journeys, bookings, e-tickets, and payment are available and integrates all forms of public and private transport. The second trend analyses the increasing incorporation of autonomous cars in daily lives, though it differentiates between 5 levels (1 being cruise control, 5 being completely autonomous driving) (ibid.). Understanding the implications of the growth of the two trends on the possible futures concerning mobility is fourfold. The first is incremental change in which cars remain private and require drivers. The second is a world of car sharing in which there is a high rate of sharing, but the cars still require drivers. The third future involves a driverless revolution in which there is a high level of autonomy and high level of personal and private ownership of cars. In the last possible, and most radical future, cars have changed into non-privately-owned vehicles with high level of autonomy, regarding a new age of accessible autonomy (c.f. Deloitte, 2017; Deloitte, 2015)

Founded in 2009, Uber took the travel and transport industry to a new level: providing easy and new employment opportunities for with those access to an underutilized car. It is currently positioned as the 1<sup>st</sup> highest ranked website with the most online traffic in the category of ground traffic (Similarweb, 2019b). Since its original creation as a taxi service, Uber has extended its services to include different vehicles for taxi services, food delivery through vehicle or bike, freight services, and a joint venture between Barclays insuring bank on a cashback reward programs through an Uber credit card (Hardekopf, 2017). What started as a simple ride-sharing taxi alternative, has changed into a multi-faceted company. The company has developed into offering a range of new applications (taxi services of person or product) as well as developing requirements for both drivers and riders<sup>2</sup> when it comes to efficiency and safety, now composed of two-way ratings, (criminal background) screening, GPS tracking, and vehicle inspection to name a few additions (Uber, 2019).

Table 2 on the next page presents an overview of the known impacts of Uber on individuals, again distinguishing between drivers (D) and riders (R), and communities.

At an individual level, Uber provides economic opportunities for those in need for extra income or those who can spare their under-utilized vehicles. With ease, drivers can create an account to start their taxi driver career: “young or old, no experience needed” (Uber, 2019). Today, even people without a car are still able to become a driver by choosing a car from a fleet of available cars from Uber partners (ibid.). Uber presents drivers with options for livelihood diversification for people in both areas in which opportunities are vast or sparse, furthermore, due to the business model of the platform company, it increases flexibility in employment opportunities and can act as main or part-time employment. With increasing telecommunication in previously sparse areas, i.e. often countries in the developing world, Uber has taken the local taxi service markets by storm. Uber drivers are employed as “independent contractors”, meaning drivers are not eligible for sick-pay, vacation days, retirement plans, but rather are on-demand workers. Furthermore, in order to use the app, Uber takes 20% of the driver’s earnings, which some find excessive for the services they provide (Scholz, 2017). Concerning the health of a driver, Uber provides jobs which can lead

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<sup>2</sup> ‘Riders’ is a term given to the people using Uber as a passenger or use Uber as a delivery service.

Table 2: Impacts of Uber at Individual and Community Level

Level	Category	Sub-Category	Some noteworthy sources*
Individual	Economic	D: Income (extra or out of necessity)	Uber (2019a).
		D: Changing and flexibility in livelihoods/ diversification	Uber (2019a).
		R: Cheap and online (app) alternative for taxis	
		D: no employment protections	Scholz (2017).
		D: low wages	Scholz (2017).
		D: "Independent contractor" model	Scholz (2017).
	Health	D: Sense of purpose	
		D: Long hours	Santus, (2019).
		D & R: Safety concerns	
		D: Personal development	
Community	Social	Increasing competition for established and verified taxi drivers	
		More non-verified and under-educated drivers	
		Unprofessionalism and misuse of power, cases of harassment	
		Gender and race discrimination	BBC (2018a); BBC (2018b).
	Economic	Increasing competition for established and verified taxi drivers	
		No additional income tax	
	Political	Unrest between verified taxi businesses and untrained Uber taxi services	
	Urban/Environmental	More vehicles on the streets	
	Technological	Data, tracking, and analysing	Various publication by UberData
	Research and Development	Research into autonomous vehicles, and autonomous freight and fly-sharing (Uber Elevate)	Korosec (2019). Chappell (2018).

\*If there is not a source listed in the third column "Some noteworthy sources", the item is supported by many sources and the research does not distinguish one specific article.

to a sense of purpose and personal development as an "independent contractor" and/or development in the transport and service industry. However, the health impacts of Uber are not only rose-coloured: drivers are faced with long hours, meaning both drivers and riders can face safety concerns, and can become victims of physical, verbal, or sexual harassment.

At community level, while providing riders with more flexible transport availability, Uber does increase competition among existing taxi drivers in the local community which has economic (higher supply of drivers and taxis than users/demand), social (more competition, rising hatred between taxi drivers and Uber drivers), and political consequences (protests from both groups against Uber, governments, and each other). Taxi drivers, who are educated and licensed in the business, often see their clients preferring the cheaper Uber alternative. Taxi drivers are frantic to keep up with Uber developments, and as a result some taxi business have leaned into similar business models, i.e. joint ventures concerning incorporating different types of transport, e.g. cars, trains, etc. (Krabbendam, 2018). Other taxi drivers have seen a



bleaker future and have resorted to suicide as they cannot keep up with the competition (Santus, 2019). Furthermore, the ease in which people can become drivers at Uber has led to more non-verified and under-educated drivers to take the streets. Due to this, there have been several cases of unprofessionalism and misuse of power with cases of physical and sexual harassment, as well as fatal or near-fatal accidents due to reckless driving or long hours (fatal accident: Constine, 2014; overworked: Santus, 2019). Similar to other platforms, i.e. Airbnb, the new type of digital platform allows people to accept or reject offers, which can lead to gender and race discrimination (BBC, 2018a; BBC, 2018b).

Concerning community economics, the income of the Uber drivers transcends national borders. The payment of the rider is received in Silicon Valley in the United States and then partially sent to the account of the driver. Similar to Airbnb, third parties, such as governments, are unable to receive insight on these transactions, which can lead to tax evasion and fraud. Various countries have stated how tech giants, such as Uber, are avoiding paying taxes. Many countries have called Uber out on tax evasion, through the tax havens. A report by a Swedish taxi-union states that Uber has failed to report around SEK700 million, which is equivalent to about 66 million euros, to the Swedish tax agency (Svenska Taxiförbundet, 2019).

An impact on the urban environment is the increasing number of vehicles on the street. While previous under-utilized vehicles stood parked, the vehicles are now Uber cars, leading to more cars in the streets with riders or drivers searching for riders. Similar to other digital platform providers, the providers (drivers) often wait in areas where there is the highest concentration of pick-up, since the faster they can pick up a potential rider, the better chance the drivers have to be assigned that rider and the faster the driver can pick up a new rider. This can lead to Uber cars standing idle until called upon, leading to traffic congestion and unanticipated usage of space.

Furthermore, digital platforms collect data from both users and providers to optimize experience and efficiency in different ways. The debate concerning big data is relatively new, questioning what user and providers' data is used for, what is being collected, who it is sold to, etc. Uber's UberData analyses the use of their services in different contexts, showing travel journeys and concentrations, amongst other things. However, recently a study by Uber on travel data has backfired. Uber posted a blog entry around 2014 concerning "Rides of Glory" in which possible one-night stands rides were analysed. The study analysed rides that happened between "10pm and 4am on a Friday or Saturday night and then took a second ride within 1/10 of a mile of the previous night's drop-off point 4-6 hours later" (Uber 2014, Copy available on: Who's Driving You, 2014). The study was quickly removed, and now can only be found on as a copy on the 'Who's Driving You' blog, as the study shows no regard to their rider's privacy or data. This is one example of a study that infringes in on people's data privacy. Although data from such companies are analysed anonymously, the identity of individuals can be apprehended through cross analysing that data through "reidentification", which is successful to 94% of the time (Berinato, 2015). For example, someone will often take an Uber to and from their house or work, giving the location of a place they are at during specific times: the location the user gets in an Uber around 8am to be dropped off and then at 6pm picked up and returned to the first location can indicate the addresses of the rider's home and work locations.

Lastly, like other companies and organisations, there is much R&D concerning automation of vehicles. Uber has stated its research into the future of mobility, including autonomous cars, autonomous freight trucks, and even autonomous aerial vehicles. Uber believes "that autonomous vehicles will be an important part of its offerings over the long term,

[...] making rides more efficient and lowering prices for customers” (Korosec, 2019). In 2018 R&D costs for Uber were more than US1.5 billion dollars. Research into this supports innovation in mobility and pursues the radical future of autonomous car-sharing state previously by Deloitte (2017). Disputes between R&D of different mobility companies, such as tech giants and their spin-offs, i.e. Google-Waymo and Uber-Otto, find themselves opposite each other in court concerning lawsuits and accusations of using each other’s data and/or designs (Chappell, 2018). After this specific Waymo-Otto lawsuit in early 2019, Uber has decided, after paying US245 million dollars to Waymo concerning automation of freight trucks, to pursue R&D in personal vehicles only although Uber aims to introduce freight trucks in Europe (AD, 2017).

### *Digital Product Streaming Platforms: Spotify*

The rise of accessible and fast internet connections lead to the digitalisation and commodification of goods previously limited to only physical products. The younger generation more frequently embraced the rise of mobile music (e.g. the introduction of the Walkman) and disappearance of physical merchandise through the internet and digitalisation (Kolosine, 2013). In 1999 the music industry saw a transformation to the traditional market as Napster, a P2P file sharing platform revolutionized music streaming. The new paradigm broadened the boundary of music production, as distribution was digital and cheaper, and artists no longer had to provide physical LPs or CDs.

After 14 months (February 2000 – July 2001) Napster was shut down due to copy-right infringement. However, regardless of its short lifetime, Napster made a lasting impression and lead to the ‘Napster Effect’; a new paradigm which is still felt among streaming users today with one key desire in mind: fast and mobile access to free streaming of music. It ultimately paved the ground for other companies researching into digitalisation of the music industry. After Napster was taken down, the consumer had tasted the revolutionary digital music market and in no time the internet established large-scale piracy. In order to combat piracy different companies have taken the original idea of Napster into a subscription streaming service, such as iTunes (2001) and Spotify (2006). By 2019, DPS platform Spotify has developed into the largest streaming platform accounting for 217 million active users and the first platform to hit 100 million paying users in 2019 (Statista, n.d. a) and is ranked 1<sup>st</sup> in the category of Arts and Music apps in the world (Similarweb, 2019c).

Table 3 illustrates the positive and negative effects of Spotify. At the Users level, listeners of the streaming service platform have become acquainted with cheap on-demand music; once used to this service, it is hard to return to buying music in digital or physical form from individuals, artists or labels. This ties in with the impacts of Spotify at an artist or label level, as it can initiate more interactions with the users by providing exclusive content (e.g. Spotify Sessions), directions to digital and physical merchandise, and directions to live shows. Economically, it is beneficial for the labels and artists, as they no longer have costs for physical merchandise, experience easier production and easier promotion, e.g. Spotify picks, Daily Mix playlists, Discover Weekly Playlists, and other ways of suggesting similar artists though built in machine-learning algorithms.

Many artists and labels have shown their concerns regarding the low levels of royalty payments (Marshall, 2015), approximately US 0.0038 dollar per-stream, which after 90,000 plays earns the artist a minimum monthly wage of US1,472 dollars (Sanchez, 2018). The

popularity of on-demand music has led to the consumers no longer wanting to own music they listen to but only streaming it on DPS platforms such as Spotify (Richardson, 2014).

**Table 3: Impacts of Spotify on Artist/Record Labels and Users**

<b>Level</b>	<b>Category</b>	<b>Sub-Category</b>	<b>Some noteworthy sources*</b>
<i>User</i>	Behavioural	Unlimited music 'on-the-go'	Kolosine (2013).
	Economic	Free or fixed subscription payment for unlimited streaming	Richardson (2014).
<i>Artists and Record Label</i>	Social	More interaction with the users: exclusive content, direction to digital and physical merchandise	
	Economic	No costs for physical production	Richardson (2014).
		Easier exposure and promotion	Richardson (2014); Kolosine (2013).
		Low levels of royalty payments for artists and labels	Marshall (2015). Sanchez (2018).
		Consumers no longer own artist's music, only stream	
		Income tax evasion	
		Creation of Spotify's own "fake music" to save on royalties	Ingham (2016).
	Creativity	Songs are altered to fit Spotify	Beaumont-Thomas & Snapes (2018). Ingham (2016).

\*If there is not a source listed in the third column "Some noteworthy sources", the item is supported by many sources and the research does not distinguish one specific article.

Recently, a study by Music Business Worldwide uncovered how Spotify creates its own content under fake artists, adds songs by them to playlists, and promoted those playlists in order to gain royalties for the company itself, some approaching US3 million dollars (Ingham, 2016), although Spotify denies the claim. Furthermore, studies show that 10% of the artists dominate the 99% of the streams, e.g. in 2018 Ed Sheeran held 16 songs in the Top 20 playlist, and also promoting already popular artists leading to more support, which ultimately is "the antithesis of a musical democracy" (Beaumont-Thomas & Snapes, 2018). To support this further, the platform acts as a neutral platform but in reality, is a gatekeeper to which artists enter the 10% most popular, thus limiting an artist's creativity as songs are written in such a way that they maximize its chance to get into popular playlists (ibid.) and making it harder for artists to make a decent living from their music streaming on Spotify (Marshall, 2015). However, some believe that cloud access to music is a new type of consumer behaviour "artists must embrace [such] new technologies instead of running away from them like [they've] done in the past, [...] R&D have gone largely neglected in the music industry" and that must change (Kolosine, 2013).

Like the case of Airbnb and Uber, DPS platforms like Spotify can be prone to evading national tax payments, although to a much lesser extent than the previous two, due to Spotify's minimal physical manifestation. However, Spotify states to be "working actively with governments and international organisations [...] to help eliminate aggressive tax avoidance" (Carlsson, 2017).

### 2.3 Reaction on Digital Commercial Platforms: Cooperative Platforms<sup>3</sup>

The current business model of firms and business-as-usual in the upcoming digital sharing and platform economy are revealing its pitfalls in the fast pace economic development we face now. The current “on-demand service economy [sets out to] monetize services that were previously private” leading to the financialization of the everyday and the rising power of the middleman, amongst others (Scholz, 2016). Some believe these monopolistic trends can be fought by cooperative platforms which make efforts towards creating publicly owned platforms (Scholz, 2016; Srnicek, 2017). Others strive to collectivise platforms to further ensure technological development through open-source data (Srnicek, 2017). However, both strands believe there is a fundamental flaw in the (digital) sharing economy, which is that the system is built on the same ideas of the post-work capitalist society in which the current generation fiercely aim to control demand, supply, and profit towards a deregulated free market with the help of new app-based technology (ibid). This leads to a new level of exploitation, e.g. loss of worker rights, which are reflected in news stories about large platform worker protests as mentioned previously, and concentration of wealth for the few, i.e. the middlemen between users and producers: the ones who own the platforms.

Therefore, as a reaction to the rapid growth of these platforms and the deterioration of the livelihoods of those who rely on the gig economy, various movements have risen towards a digital sharing economy that protects the commons and its people. Although cooperatives, as well as digital cooperatives, hold much potential for digital markets, the current go-to business model is (digital) commercial. Cooperatives are a reaction to the digital sharing economy; however, they are not merely a digital continuation of commercialism or capitalism, but rather a global push towards a new type of capitalism with a whole new level of exploitation (Scholz, 2016). Still, the cooperative business model is often disregarded as a real alternative for stable jobs and (economic) development. Cooperative firms are held back in the business-as-usual market as the context in which they operate is desirable for commercial firms. Cooperative activist Trebor Scholz states that until cooperative firms can decouple themselves from this commercial context, they cannot fully flourish (Scholz, 2016). However, there are many cooperative firms that do manage to function in this context and that remain ethical, self-managed, non-exploitive, and bring creativity to the way products are consumed and how work is reorganised. This shows that even in the ‘wrong’ economical context, cooperative business models hold potential for taking steps towards transforming the global economy from a digital exploitive to an inclusive and equitable (digital) world.

Scholz, who coined the term platform cooperatives, describes it to be a mix of heritage rich-cooperativism, the digital economy, P2P services, and based on fairness, democracy and equality aiming to help communities become more sustainable and achieving more equitable distribution of wealth (Scholz, 2014; McDonnell, Macknight & Donnelly, 2012). They foster true P2P exchange of services and (digital) goods through worked-owned digital (app-based) platforms that are decentralized, democratically governed, collaborative, and radically egalitarian (Scholz, 2014; Scholz & Schneider, 2016; Van Doorn, 2017). Scholz states that the term contains three parts. First, rather than taking the past commercial (digital) developments for granted, cooperative firms should “clone the technological heart” of existing platforms but change a few fundamentals such as the model of ownership and incorporating democratic values (2016). Second, rather than relying on the ‘middleman’, cooperative

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<sup>3</sup> See <https://platform.coop/directory> for established and developing cooperatives all over the world.

platforms must be owned and operated by a diverse set of actors ranging from city governments and inventive unions to users. Third, as current definitions of 'innovation' and 'efficiency' are developed with economic development as a fundamental pillar, these definitions must be revisited. Following this, Scholz has proposed ten principles of platform cooperativism:

First and foremost, the platforms can no longer be owned by the middleman and therefore must be collectively owned by the users towards a people-centred internet.

Second, concerning equity and income, the digital workers and their underpayment using the current platform models are invisible, therefore, the cooperative platform must provide decent pay and income security to all its workers.

Third, the new platforms must strive towards operational and data-related transparency, e.g. when data is collected, analysed, and sold.

Fourth, and currently missing at large platform firms, workers of the platforms deserve appreciation and acknowledgement reflected in the ability of the workers to communicate with the platform and its operators.

Fifth, involve the workers from the first day of programming of the platform, this leads to a collective design process in which both users and producers work towards an inclusive result.

Sixth, due to the platform's unusual nature, they must use legal assistance against adverse legal actions by cooperatives.

Seventh, worker protection should not be tied to one workplace but rather allow workers to take benefits and protections with them to different work scenarios.

Eighth, cooperative platforms must protect workers against arbitrary and unexplained behaviour, e.g. firing and refusing explanation, which is unfortunately a common practice in Uber.

Ninth, as cooperative platforms rely on trust, they must reject excessive workplace surveillance.

Lastly, cooperative platforms must grant workers the right to 'log-off' illustrating clear boundaries of digital work and offline daily life (c.f. Scholz, 2016).

These ten principles define the fundamental differences between cooperative and commercial business models. Overall, these principles can be categorized into 5 different characteristics:

- Built on the commons;
- All members of the platform are the owners;
- Fairness, democracy, and equality are key;
- Creativity, in work organization and product, is encouraged;
- Strong connections to neighbourhoods and neighbourhood projects.

Even though over 100 million people are employed in cooperative firms, which is over 20% more than all multinationals combined, the firms', although significant, impact on economic and social development continues to be underutilised and poorly understood (ILO, n.d.). However, digital cooperatives platforms are new and are still trying to establish their role in the global digital world.

## *2.4 Assumptions*

The current market structures are being challenged by the transformation from commercially dominated structures towards becoming more open towards more cooperative structures. Although these cooperative structures are not new, their involvement in the digital market is, as they are quickly becoming big players in the digital market. Cooperative reactions upon commercial platforms aim to rid the current structures of commercial platforms and take them back to their roots: P2P services.

The following assumptions are based on previous academic studies and literature and other related publications and reports.

1. It is assumed that the current market, in which commercial platforms dominate, is transforming towards becoming more open to different structures such as cooperative business models.
2. This research builds on the currently known negative (and positive) impacts and externalities of the three chosen commercial platforms which are acquired through various academic studies. Therefore, it is assumed that cooperative platforms can develop its elimination strategy based on the current known impacts of their commercial counterpart.
3. There is a transition of the digital economy from commercial dominated to semi-commercial-cooperative platforms.
4. (Living) Innovation labs, which combine academic, private, and governmental actors, and harbour great creativity and flexibility, offer the most potential for effective innovation and R&D in new trends technologies such as digital platform cooperativism.
5. The impacts of commercial HST and mobility platforms and their cooperative counterpart are assumed to take place at a mostly physical level, and therefore are in this research, analysed as such.
6. DPS platforms such as music streaming websites are assumed not to require geographic location to facilitate nor have physical impacts on urban environments. Therefore, the DPS platforms (Spotify and Resonate) are not analysed in a geographic manner but rather at a more abstract level focusing on the global music economy as a whole.

## *2.5 Hypothesis*

Based on the outlined assumptions and previous literature analysed, this research makes use of a hypothesis to steer the analysis. It expects that cooperative platforms do indeed hold much potential as alternatives to work towards eliminating the current negative effects of commercial HST, mobility, and DPS platforms and further develop positive effects of P2P house-sharing digital platforms. The cooperatives are expected to pinpoint the currently known effects (sub-question 1) in order to eliminate (negative) or amplify (positive) effects of commercial platforms and eventually these cooperatives can become genuine competitors (sub-question 2 and 3) to existing commercial counterparts. The breakthrough of the cooperative business models onto dominant digital markets is expected to be heavily reliant on consumer awareness and behavioural changes rather than only governmental aid.

### 3 Methodological Framework and Research Contexts

#### 3.1 Conceptual Model

The conceptual model presented for this research, see figure 1, illustrates (a) commercial platforms and their effects on the community, and (b) how cooperative reactions aim to make the platform more collective between the users, the community, and the platform itself. In (a) the use of the platform (from user to platform) is shown to have a one-way impact onto the community with no way of having a clear influence on or feedback on the business model. Public and governmental backlash is shown as minimal feedback onto the platform via a dotted grey line indicating its weak influence on the platform. The cooperative platform design, (b), shows a more collective business model in which the three different parties, i.e. users, platform, and community, each play an important key in the system with availability for feedback and changes, indicated by the various arrows linking the three components. By establishing them as an alternative, these cooperative platforms aim to help eradicate the existing negative impacts through new cooperative structures, non-hierarchical structures, transparency, voting rights, community projects, and more. The cooperative platform stresses the importance of rekindling the triangular relationship between the platform, the users (and the owners), and the community including the people living in the area as well as governmental bodies.

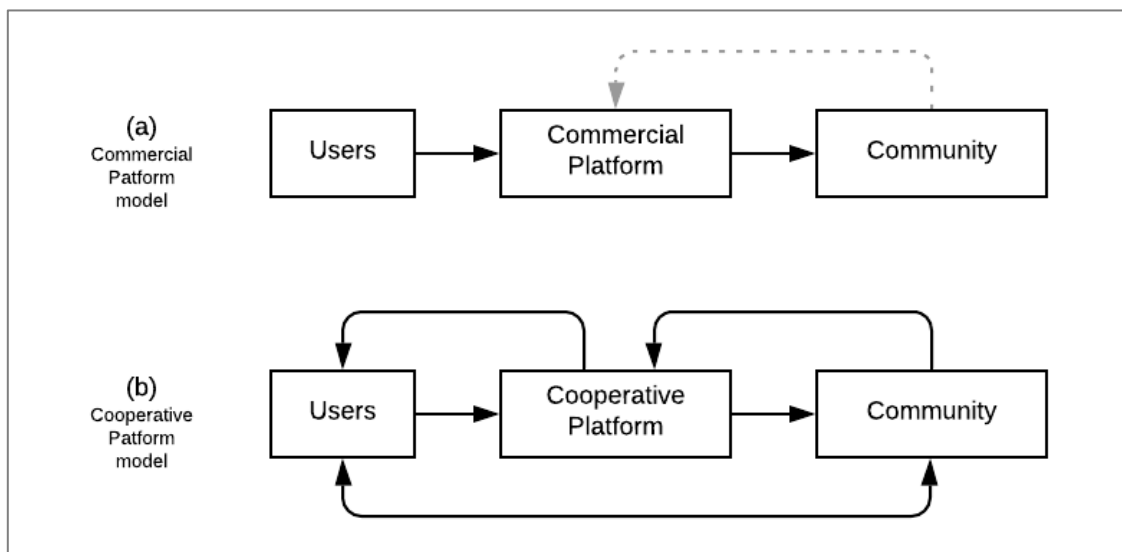


Figure 1: Conceptual model (Author, 2019)

#### 3.2 Research Framework

The research is composed of two sections: desk research in European contexts (Airbnb and Uber) and global digital markets (Spotify) and field research in the Dutch Randstad. During the phase of desk research secondary data is collected from various online and offline academic journals, books, and governmental- and non-governmental reports to expose the current knowledge gaps and build towards a list of assumptions through a literature review. Utilizing the main question and three sub-research questions, these assumptions act as the guiding elements during the field research to further analyse the challenges of commercial digital platforms in the HST, mobility, and soft product services and the opportunities for

cooperative digital platforms Fairbnb, Cotabo, and Resonate to counter Airbnb, Uber, and Spotify respectively. The first two cooperative alternatives use the case study of Europe. Fairbnb tackles Italy, due to its headquarters being located in Bologna, and The Netherlands, as Amsterdam is one of its five test cities. The Bologna-based Uber alternative, Cotabo, will represent the section on taxi mobility rather than P2P car-sharing mobility. As digital products such as music cannot be associated with a specific geographical location to facilitate nor do the streaming platforms physically impact urban environments, the third cooperative platform, Resonate, is not analysed in a geographic manner and rather at a more abstract or meta-level, focusing on the global music economy as a whole. During the research, findings were triangulated between secondary sources such as (non-)governmental reports, academic literature, qualitative and quantitative data collected through a range of interviews with start-ups and experts, and structured interviews with users, see Table 4.

Table 4: Resources Used

<b>Type of Sources</b>	<b>Explanation</b>
<b>Secondary sources</b>	
	Range of literature: reviewing academic articles and other publications on various aspects of the sharing and gig economy, commercial and cooperative platform, and effects of Airbnb, Uber, and Spotify, and the creation of each counterpart: Fairbnb, Cotabo, and Resonate
	Digital conference on Platform Cooperativism held 11-13 November 2016 via achieved live session (Internet Society, 2016)
	Governmental reports by Amsterdam municipality
	General Statistics Office of Amsterdam (OIS, n.d.)
	Statistics on Airbnb rentals (available at: <a href="https://www.AirDNA.co">https://www.AirDNA.co</a> and <a href="https://www.insideAibnbr.com">https://www.insideAibnbr.com</a> )
	News articles concerning Airbnb and Uber in the Netherlands and Italy.
<b>Primary sources</b>	
<i>Orientation Interviews</i>	Dr. Van der Zee on Airbnb and the tourism sector, February 2019.
<i>Expert Interviews</i>	PhD Candidate Damion Bunders on Airbnb, the gig and sharing economy, and commercial and cooperative platforms, April 2019.
	Scholar and PhD conference ' <i>Digital City</i> ', April 2019.
	PhD Candidate Suci Lestari Yuana on the platform economy, April 2019.
	Co-founder at Fairbnb Mr. Veracruz on structure of cooperative platforms, May 2019, and the creation of Fairbnb and towards its launch, May 2019.
	Launch Conference Fairbnb.coop, May 2019.
	Mr. Arets on the potential of Fairbnb in the platform economy, May 2019.
	Mr. van Groeningen, Senior financial advisor at the Municipality of Amsterdam on the impact of Airbnb on the city, March 2019.
<i>Structured Interviews</i>	5 Airbnb Hosts Amsterdam, May 2019.



### 3.3 Research Context

The case study for this research in Europe is based on established and establishing cooperative platforms present in the Netherlands and Italy. As mentioned previously, Resonate does not have physical geographic ties, so this alternative platform is analysed at a more global level. As all three of the platforms take place in the digital sphere, their use is easily implemented into the market, i.e. providing an app that everyone with a smart device can download, and its impact extends over national borders and is therefore challenging national governmental bodies to regulate their growth in national markets.

#### Airbnb and Fairbnb

As for HST platforms, Amsterdam's close struggle with the effects of (over-)tourism and Airbnb has led to its frontrunner character as one of the first governments to directly impose laws and regulations concerning Airbnb. Furthermore, the cooperative alternative, Fairbnb, is closely involved with Amsterdam as it is one of the test cities of the platform. Since its initial crowdfunding round of the platform in June 2019, supporters of the fair alternative can add their rooms or Bed & Breakfasts to the Fairbnb map.

#### Uber and Cotabo

The struggle between Uber, Uber drivers, and municipalities is ongoing in many countries. However, as there is not yet an established cooperative alternative to Uber in the Netherlands, Bologna, Italy, is chosen to be added to the case study where Cotabo is established.

#### Spotify and Resonate

As mentioned previously, it is assumed for this research that as digital product and streaming platforms do not require a geographic location to facilitate, the operation of the platform is not limited to national boundaries. Although streaming platforms are expected not to have a physical impact on urban environments, they are assumed to have positive and negative impacts on users and artists and/or record labels, which is analysed in this research. As such streaming platforms are not nested in a specific geographic location, this research analyses the last platform at a more meta-level focusing on the global music economy as a whole.

## 4 Results

### 4.1 House-Sharing Tourism: Airbnb versus Fairbnb

#### *Airbnb in Amsterdam and Bologna*

Currently, Airbnb has a market share in Amsterdam of 10,4%; the 1,2% decline since 2017 is due to the city's new laws and regulations (Emerce, 2019). Bologna's government reflects similar changes in its regulation concerning taxation of short-stay rentals. Nevertheless, Airbnb is still popular in both cities: the total number of listings in the cities amount to about 20,000 listings in Amsterdam and 3,500 in Bologna. Listings in Amsterdam are composed of 79.7% whole apartments, only 20% rents out a private room, and around 0.3% rents out shared rooms (Inside Airbnb, 2019a). In Bologna, listings consist of 66% whole apartments, 32% rents out a private room, and around 2% rents out shared rooms (Inside Airbnb, 2019b).

The municipality of Amsterdam copes with the effects of (over-)tourism and Airbnb listings as a result of growing number of annual tourists. Therefore, the city is directly imposing regulations and laws concerning the rental of HST and Airbnb in particular, becoming one of the pioneer municipalities to do so. The municipality holds an Action-Plan for the Sharing Economy, in which it states the opportunities of the platform economy to provide people with various opportunities, such as sharing, renting, and other employment opportunities, and therefore the municipality regards the platform economy as something that should not be banned nor allowed, but should be closely monitored and should seize opportunities whenever possible in the areas of sustainability, social cohesion, and economy (Gemeente Amsterdam, 2016; Amsterdam Sharing City, n.d.). Airbnb listings that are available in the city have steadily grown in recent years to over 50,000 annual additional listings in 2018 to 2019 (AirDNA, 2019). With an occupancy rate of 77% and an average daily rate of 160 euros a night, monthly revenues can reach around 2,000 euros (AirDNA, 2019). Other data websites state an average of 151 euros a night with a monthly revenue of 934 euros, with an estimated occupancy rate of 22% (Inside Airbnb, 2019). As Airbnb is reluctant to share precise data with third parties, these numbers can vary. Although Airbnb states the location of listings are the most popular outside of tourist-ridden areas, the neighbourhood of 'Centrum-West', located in the city central, is by far the most popular listing area, see Figure 2 and 3 (AirDNA, n.d.; Dirkmjk, 2018).

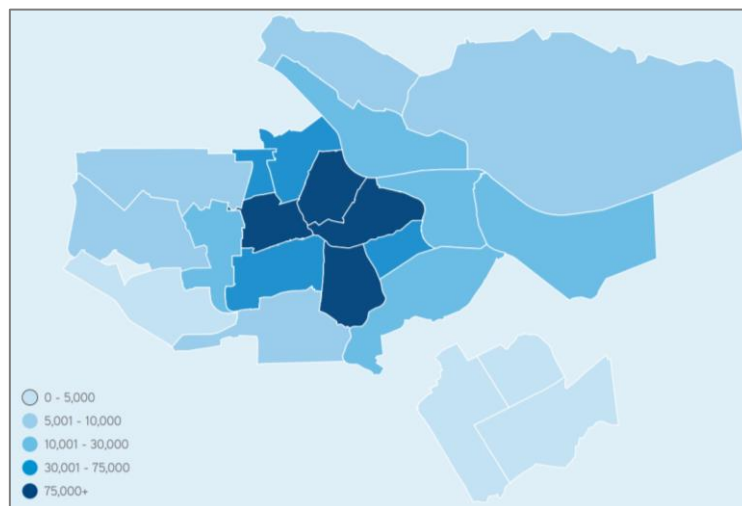


Figure 2: Concentration on listings in Amsterdam 2015 (AirDNA, n.d.)

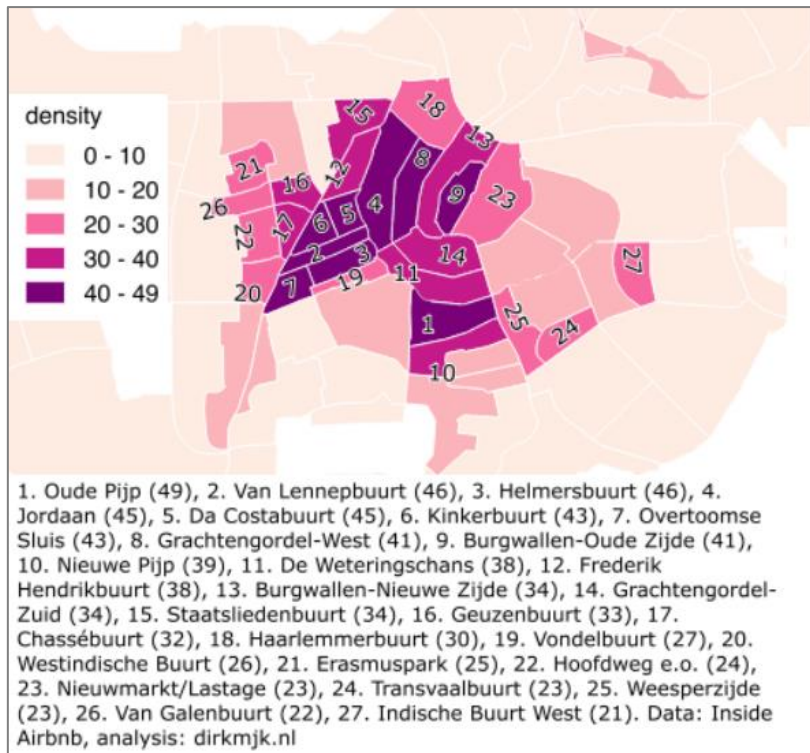


Figure 3: Concentration of listings in Amsterdam 2017/2018 (Dirkmjk, 2018)

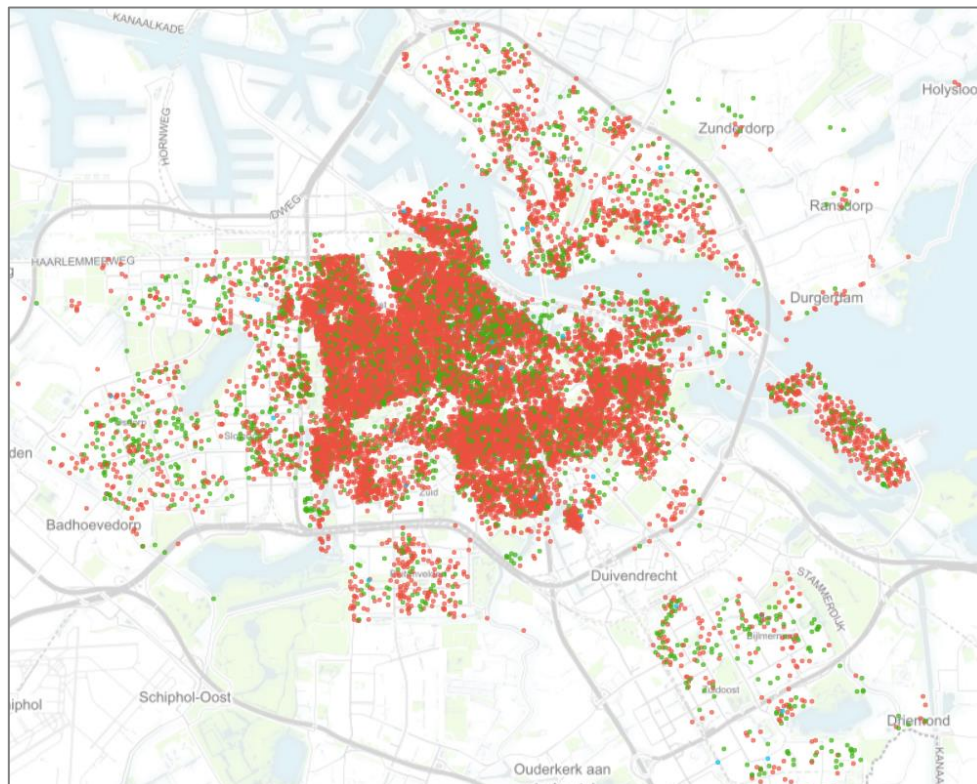


Figure 4: Whole-apartment listings (orange) and room-listings (green) in Amsterdam (Inside Airbnb, 2019a)

Furthermore, most listings in Amsterdam provide the traveller with the whole apartment, while some only provide one room within an apartment. In the latter, the host is most likely living in the house or provides a Bed & Breakfast through Airbnb.

About 22% of the hosts are multi-listing hosts, meaning they rent multiple rooms or multiple properties. Although most hosts have between 2 and 4 different listings, some hosts even have over 100 different listings in Amsterdam, some have more than 50 different listings (Inside Airbnb, 2019). Although the initial idea of Airbnb was to provide P2P house-sharing services, it has often become a digital paradise for such 'super-hosts' or slumlords who own multiple properties, who, in the case of the latter, often lack personal contact with renter, and have the primary focus to maximize profit by i.e. minimizing spending on property maintenance.

The abundance of Airbnb in the cities has led to a range of negative effects including the negative effects elaborated in Table 2. Amsterdam and Bologna are faced with many socio-economic and urban effects from the platform. Similar to the effects elaborated in Chapter 2.2, the city struggles with social effects (disconnection of neighbourhoods and creation of noise, loitering, pollution and nuisances); economic effects (decreasing housing availability, hospitality competition, and income and tourist tax evasion); political effects (unregulated rentals, tax evasion and fraud); and urban effects (housing competition, increased house prices, changing neighbourhood composition, and displacement and gentrification of people) (cf. AT5, 2018; Van der Zee, 2019; Koster, Van Ommeren & Volkhausen, 2018).

Recognizing the negative effects of Airbnb, Koster, Van Ommeren & Volkhausen (2018) suggest an add-on to the current business model of Airbnb. This add-on includes an "additional payment of 20 euros per person per night and an additional 25% of the rental price, which they state can lead to a more efficient housing market and will ultimately lead to the national and local governments and communities benefitting from Airbnb" (Koster, Van Ommeren & Volkhausen, 2018). However, this would mean the cheap short-stay option will suddenly become more expensive, which would open options for other cheaper commercial platforms to replace Airbnb as the global dominant. Such an add-on is not an economical sustainable option for the long-term. Cooperative platform Fairbnb is built on the idea that additional payments will help local communities, though only 15% percent extra is added to the original price.

### *Cooperative reaction: Fairbnb*

A reaction towards the creation of cooperative platform Fairbnb

Fairbnb's mission is to go back to the roots of P2P HST services by introducing a cooperative business model. The initial reason for its reaction is to eliminate the negative effects and effects mentioned above (i.e. fraud, financial focus, nuisance, and overtourism, etc.). Currently in its second round of crowdfunding, Fairbnb received 7,200 euros in start-up costs, aiming towards 18,000, through Goteo, a crowdfunding website. Although the cooperative is supported by the municipality of Bologna, political players in Amsterdam are divided; the municipality is reluctant to discuss the topic of an ethical Airbnb alternative, likely due to the political risk of supporting such a cooperative initiative, while the local council is publicly in support of searching for an alternative and specifically states its support for Fairbnb (NU.nl, 2019). Due to the governments reluctance to financially support Fairbnb, the current

shareholders are the employee's own investment and small investors who are predominantly middle-aged or retired men (Interview: Mr. Veracruz, 2019).

The Italian/Dutch cooperative is developing an alternative platform for the phenomenon of Airbnb towards a fairer option in which people, community, and government collaborate in which the users of the platform are the owner (Fairbnb, 2016). It aims to create "a smart and fair solution for community powered tourism" in which an additional 15% of the price of a stay goes to supporting local projects such as cultural centres or the creation of local parks and paid employees (Fairbnb, 2019). The movement has five test-cities, Amsterdam, Barcelona, Bologna, Valencia, and Venice, and aims to expand to Oslo and Marseille soon, the latter collaborating with Les Oiseaux des Passage, a French ethical Airbnb alternative.

After receiving media attention, Fairbnb was approached by several similar platforms who had a similar idea in mind. Merging ideas of different Fairbnb cooperatives, ("fairbnb.nl" and "fairbnb.it") the platform adopted a "fairbnb.coop" domain website, which was previously used by Dutch governmental Party GroenLinks who then donated the domain to Fairbnb (Interview: Mr. Veracruz, 2019).

How does Fairbnb function?

Figure 5 illustrates the foundation of its cooperative business model. For every booking, the guests pay 15% more to fund local social projects (7,5%) and Fairbnb paid employees (7,5%), in which the former local neighbourhoods benefit from the tourism flow. Fairbnb has established this business model to maximise transparency between the platform, its travellers and hosts, and local governments. Fairbnb aims to work closely together with such local governments to optimise the positive impact of the platform, i.e. understanding which problems a city faces and in which ways Fairbnb funded projects can help eliminate these, which the HST platform found missing in Airbnb's business model. Projects include supporting a Bologna-based start-up that supports women, diversity and inclusion, graffiti clean-up, and a Venice-based project concerning the study of ancient and traditional maritime crafts, to name a few (c.f. Fairbnb, n.d.). Furthermore, the Fairbnb model regulates a '1 host = 1 house' policy,

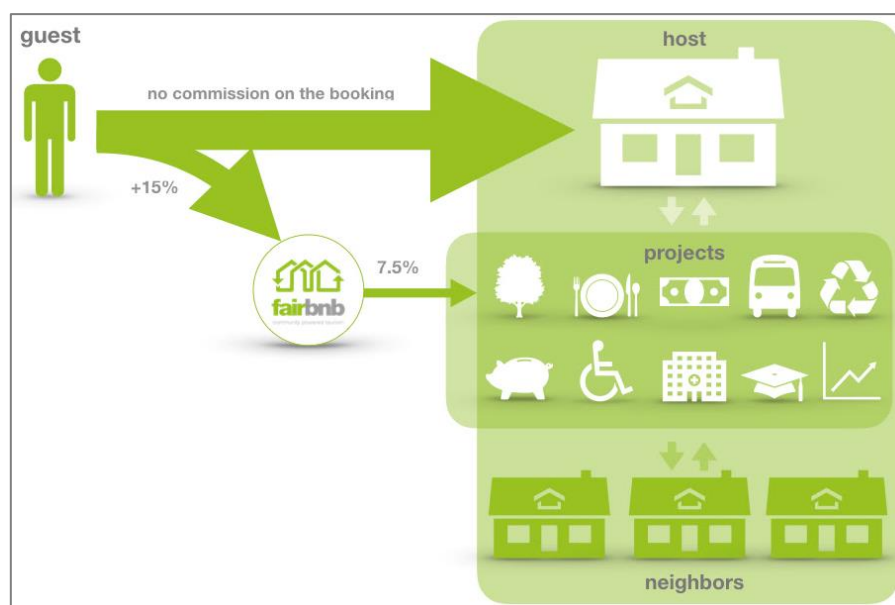


Figure 5: How it works: Fairbnb (note: the diagram taken directly from Fairbnb.org uses American English spelling of "neighbors", deviating from UK English spelling used in this thesis) (Fairbnb, 2019).

which aims to take P2P house sharing back to the roots in which the hosts are residents of the house, hosts cannot provide a second house as a listing, and where hosts and travellers meet each other.

### Eliminating the Impacts of Airbnb through Fairbnb

Although Airbnb has a range of effects on socio-economic and urban spheres in a city, see table 2, Fairbnb recognises its potential, as well as that of Couchsurfing, for an ethical HST platform. One rule of Fairbnb stands out, as it aids Fairbnb to eliminate the negative effects by not allowing multi-listing hosts with its '1 host = 1 house' policy. This rule eliminates several negative effects harboured by Airbnb.

The rule allows neighbourhoods to maintain connections between neighbours. Since hosts reside in the house that they list on Fairbnb, it becomes undesirable for 'slumlords', which combats fraud, tourist and income tax evasion, eradication of large-scale creation of noise, loitering, and pollution, and is further helped by the fact that hosts are present and are expected act as responsible actors. This lessens the strain on the local housing competition and on the local hotel industry. By enforcing this rule, the local housing market can no longer overflow with listings, which eases the strain on the housing prices. At the beginning of its launch, Fairbnb will provide only 10 listings per test city. This way, Fairbnb cannot have such large influence on fluctuations of the local housing prices. However, as Fairbnb grows, it should be considered more closely to see if indeed, the house prices change as a result of Fairbnb.

The policy further has an eradicating effect on the changing socio-cultural composition of neighbourhoods and displacement posed through Airbnb listings. First, as no multi-listings are allowed, Fairbnb eliminates the 'ghost town' effect during off-season months. Furthermore, Fairbnb is expected to have a positive effect on the socio-cultural cohesiveness as it supports existing projects and the creation of new social projects once Fairbnb grows. These projects can provide more economic opportunities as well as a sense of purpose, and positive local development. After the launch of Fairbnb, its effect on the socio-cultural composition must be examined in order to maintain its position as an ethical Airbnb alternative. Second, regarding displacement, gentrification, and segregation, Fairbnb expects to have a positive effect on such phenomena. However, as the phenomena are affected by many processes, Fairbnb cannot be regarded as a 'quick fix', since pre-existing processes can still take place. Negatively, Fairbnb listings drive people out of a neighbourhood, however, due to the small-scale of Fairbnb in the test cities, this will have a minimal effect. However, Fairbnb can also cause a more positive effect: the introduction of a Fairbnb listing in a 'bad neighbourhood' can lead to small-scale gentrification (e.g. clean up and graffiti clean-up projects) improving local neighbourhoods concerning cleanliness and safety.

Fairbnb states to act as an ethical alternative to Airbnb, however, it does not mention specific strategies when it comes to digital racism, nor tourist and income tax. Regarding the latter, this is possibly achieved through extra payment on top of the payment of a night at a listing and through close cooperation with local government and related agreements. Issues concerning these effects will present itself after its launch.

As of now, Fairbnb has yet to persuade governments for financial support. The cooperative holds much potential for eliminating the negative effects of Airbnb, which the cooperative can show through research. Although the local council of Amsterdam is in favour for an alternative to Airbnb, and mentions Fairbnb by name (NU.nl, 2019), the cooperative is

yet to persuade the municipality of Amsterdam for financial support (Interview: Mr. Veracruz, 2019; Interview: Launch Conference, 2019).

### Fairbnb is not the only cooperative Airbnb alternative

As mentioned in the previous section, various start-up cooperatives under the name of 'Fairbnb' merged to form the larger current Fairbnb.coop. However, there are more similar cooperatives that share the same mission. Fairbooking and Les Oiseaux de Passage are two HST platforms developed by the French Coop des Communs, in which it strives towards creating an ecosystem of equitable collaborative platforms with social and societal innovative impacts, inclusive governance, value sharing, data ethics, production of commons, and cooperation between members (Coop des Communs, n.d. a). Through creating bridges between such groups, they can flourish and develop into a new generation of collaborative platforms in the emerging digital sharing economy (c.f. Coop des Communs, n.d. b). Les Oiseaux de Passage is an HST and cultural platform also providing activities, local products, and all-inclusive holidays next to accommodation (Hotel du Nord, n.d.). The wide range of products available for travellers holds potential for larger all-inclusive HST platforms. However, both cooperatives are limited through their language barrier: both platforms are reluctant to include other languages besides French, and therefore deeply limit their growth (Interview: Mr. Veracruz, 2019). To enable growth for cooperative platforms, provision of the services in different languages is key. Fairbnb has more growth and international potential in this aspect as it has 3 language options: English, Spanish, and Portuguese. It would benefit the cooperative if more languages become available after its launch.

### Fairbnb in the field

#### *Hosts*

Just like any platform, cooperative or commercial, it is dependent on users. The interviewed Airbnb hosts in Amsterdam had different preferences when it came to the development of Fairbnb. While some stated they were focused solely on renting out rooms and apartments and therefore stated no need for an ethical alternative, others were more interested in the idea of Fairbnb. One host who is a middle-aged man living in the *West-Indische* neighbourhood with one listing, did state to have an interest in the development of Fairbnb due to his interest in social developmental projects. The host set up his listing to be able to finance his developmental projects in Gambia and Tanzania. Another host, a younger male, who has two listings, states that such cooperative alternatives to Airbnb have potential and recognises that some cooperative alternatives already exist. He owns a Bed & Breakfast, which he added to Airbnb to increase bookings, in which he is present when guests are there, and can therefore take action if something were to go wrong, e.g. accident or nuisance.

An elderly female host with two listings state that she is not for a cooperative alternative to Airbnb. She believes the current business model Airbnb uses is sufficient although she recognises that rich people misuse Airbnb, but that the company itself is good as it provides a quick and easy connection between hosts and travellers, no advertisements, and quick pay. She states that she believes cooperatives will include too much talk but no action and are therefore not suitable competitors.

The interviewed hosts come from different economic backgrounds, as the hosts state that they either rent out rooms for extra finances, help to pay with own rent, or have added

their existing Bed & Breakfast to the platform. Regarding the latter, the host states their Bed & Breakfast as an Airbnb listing has the same socio-economic and urban impacts as other Airbnbs. However, their connection with direct neighbours is close, and in case of nuisance there can be quick reactions, which until now has not happened. The host living in the Jordaan states that his Airbnb listing does not have any changed effect on his neighbourhood as the neighbourhood has always been dominated by Airbnbs. He believes that neither the rise of tourism in Amsterdam nor the increasing housing prices are due to Airbnb. To the latter he states that the increase is due to 'power couples', expats, and more hotel rooms, however, does regard a connection between the growth of the platform and growing number of traveling people. His frequent guests are businesspeople who travel for work rather than pleasure, which he states has an impact on the effects his Bed & Breakfast has on his neighbourhood.

One host stated he was solely focused on private financial gain, which was reflected in the number of listings he had. He stated a cooperative alternative is not of interest, but that he would prefer to see some additions to Airbnb such as a guest filter, which contradicts Airbnb's non-discriminatory policy issued after various race-related issues surfaced.

### *Users*

The interviewed hosts show a range of perspectives concerning the effects of their listing on their neighbourhood and the need for an ethical Airbnb alternative, which reflects the consumer as well as provider of the different available platforms. Similarly, users or travellers also differ in their preferences. Some travellers desire a more cooperative alternative as they find it important to travel 'fair'. Driven by the understanding that local people's stability and wellbeing are more important than those of tourists, being able to financially support locals and local communities, and understanding that the local projects, proposed by Fairbnb, will give meaning to the cities, and ultimately, they want to be able to enjoy the city they visit while remaining respectful of the people who inhabit it. Like ethical and 'green' movements, 'slow tourism' is becoming a phenomenon which reflects the benefits of the product (the rentable room), the provider (the host and the community) and the user (the traveller) with the viewpoint of local prosperity at the centre.

### *Local Governments*

As mentioned previously, the municipality of Bologna has shown its support for development of Fairbnb, however, the governmental bodies of Amsterdam are divided. While the municipality is reluctant to comment their support or protest on the development of the Airbnb alternative, the local council is in favour of research for Fairbnb, as Fairbnb holds more potential for eradicating the negative effects of Airbnb than simply a tourist tax, which is currently proposed between Airbnb and the municipality of Amsterdam. The cooperative must show that the tourist tax, although good for the city, is a static way of solving the problems. The cooperative must show that it provides a more hands-on and dynamic way to solve these in order to gain governmental support in Amsterdam (Interview: Launch Conference, 2019). One way to do this is if Fairbnb shows how the cooperative can help solve the top three largest negative impacts in the city, for instance how Fairbnb can work on decreasing nuisance and disturbances, increasing house prices, and fraud (slumlords) through regulations and projects.



### *Further development Fairbnb*

As Fairbnb is in the midst of its launch, ideas are presented that can be a good add-on to the model to ensure the growth among travellers and hosts. For example, the idea of a digital token or digital currency to earn as a traveller and a host, by for instance providing a 5-star room or by participating in the local social projects, and to be able to trade those with other users. Such a reward system is being used by other platforms and is shown to be an effective way to ensure and continue digital traffic to the platform.

Furthermore, after the launch and initial growth of Fairbnb, the cooperative must ask whether to include existing hostels and hotels to the cooperative. As hostels and hotels are registered in the urban plan of governments, these can be coupled to Fairbnb and taken into account with the development of the city and the development of the cooperative in the city. However, at this stage, Fairbnb wants to first focus on the initial launch, and then after a year or two consider this option. The cooperative first wants to see how the market takes on Fairbnb and how it reacts to the cooperative, and how the demand and supply of HST changes.

## 4.2 Mobility: Uber versus Cotabo

### Uber in Europe

News stories in Europe are flooded with issues concerning Uber's long hours, independent contractor 'employee model', and tax evasion. Drivers for Uber are not regarded as employees of the company, rather as independent contractors officiated at the Chamber of Commerce. Drivers are required to use their own vehicle, pay for gas, vehicular and personal insurance, and the driver receives no sick days, retirement, or other employment rights. Drivers are merely on-demand previously idle cars now used to transport riders from one place to another through a digital app that transfers money from the riders to Silicon Valley and part of it back to the driver. Furthermore, a driver's income is dependent on the number of rides rather than an hourly pay. Drivers are uncertain how many hours they will work daily as they are highly dependent on demand. This often leads to drivers becoming overworked and exhausted and can lead to accidents. As Uber grows, it provides additional functions and rules for its users, and as a reaction to long working hours it has now installed a driver limit and promotes it around cities, see figure 3. Rather than finding a solution or compromise at the source of the problem, e.g. promoting better pay or decreasing the number of hours drivers spend on the road, the company is blocking a driver's potential income a few hours a day.



Figure 6: Uber Poster "Because of our driver limit, drivers will never drive too long. Safety never stops.", The Hague, June 2019. (Photo: Author, 2019)

## *Cooperative reaction: Cotabo*

### A reaction towards the creation of cooperative taxi platform

Cotabo (*Cooperativa Tassisti Bolognesi*) is built on three fundamental principles of equality, service continuity, and participation. The taxi services state that no distinction nor discrimination can be made between sexes, races, languages, religion, politics, and elderly & (dis)abilities, providing special taxis for the latter. In order to address equality, the platform states to be available 24 hours a day. Concerning participation, the platform encourages citizens to participate in discussions on the organisation of the platform and on its method, which is the most important principle in cooperative organisations. With the help of the municipal administration of Bologna, the quality and effectiveness of the platform are improved through adopting the most appropriate organisational structures and solutions. Cotabo was founded in 1967, driven by the “constant commitment to improve the relationship with user and collaboration between social and economic institutions” in Bologna (Cotabo, n.d.). The cooperative embraced technological innovations as they were introduced to daily lives, e.g. transitioning radio, GPS, rechargeability, a digital app and prepaid taxi cars, and eco-friendly cars as the years progressed. Furthermore, the cooperative defines itself as a multi-service platform that aims to have all the services that come with taxi-services in one place ranging from taxes, taxicab handling, fuel distribution, immediate club and sports memberships for all drivers as well as legal protections.

### How does Cotabo function?

Cotabo today allows the rider to call a taxi or order one with a smartphone or desktop application. It allows the riders the possibility to pay cash to the driver or electronic payment with Cotabo’s pre-paid taxi card.

### Eliminating the Impacts of Uber through Cotabo

At an individual level, the largest negative impacts of the commercial model of Uber are the lack of employment protections, low wages, “independent contractor” worker model, long hours, and safety concerns. These relate mostly to the drivers, although the safety concerns can impact both the driver as well as the rider. Cotabo has a well-established worker rights division, which protects their employees, which are not independent contractors like Uber, and supplies them with additional services, which addresses all four of the impacts of Uber mentioned above. Cotabo, for example, supplies its drivers with additional soft- and hard-taxi-related services including vehicular and personal legal protection, liability issues, and insurance for both drivers and riders. The high quality of the services is a right to both the drivers and riders ensuring duty that maintains the safety and tranquillity of both parties.

At a community level, Uber disrupts the economic and political fabric by creating unhealthy competition for established taxi drivers and does not pay taxes. Regarding the first, the market will always present competition between parties, Cotabo not excluded. The current size of Cotabo can only pose as potential competition for Bolognian taxi drivers alone, however, considering its size compared to Uber, the platform poses healthy competition regarding taxi services in Bologna. Regarding income, Cotabo is an established cooperative

company in Bologna and taxi rides that are paid cash or through electronic payments remain in Italy and, therefore, include income taxes.

Social effects of Uber concern unverified drivers, gender and race discrimination, unprofessionalism, and misuse of power. Cotabo drafted a list of rights and duties of the drivers which state the obligations of the drivers with respect to cleanliness of vehicles, professionalism, and licencing, and the right of the driver to refuse users, i.e. users that have previously caused damage, users that are in a state of alteration, and the right to refuse journeys over 30 minutes over the chosen work shift.

At an urban and environmental scale, Uber has caused an increase of previously idle cars now in use, causing for more cars on the streets. As Cotabo is also a company reliant on taxi services, it cannot eliminate this effect, however, due to the size of Cotabo, their addition to traffic is minimal.

Lastly, the cooperative platform does not mention possible additional services regarding technological development. However, Cotabo does recognise other affiliated cooperative taxi service platforms, and can share R&D insights.

#### Cotabo is not the only cooperative taxi alternative

There are many ride sharing platforms throughout Europe, such as Snappcar, GreenWheels, etc., but the number of ethical taxi cooperatives remains underdeveloped. An established cooperative taxi platform in Paris currently employs 1,500 drivers and a crowdfunding campaign in the UK is trying to kickstart an ethical taxi platform. Such taxi cooperative platforms are currently extremely local compared to international commercial giants. Cotabo refers to affiliated cooperatives in other Italian cooperative taxi platforms. Although these local platforms cannot grow beyond the limits of their city, unless they change their business model from the inside out, they are part of a larger network of cooperative taxi platforms, just like Cotabo. The affiliated platforms can exchange ideas and practices and apply them to their city. This can result in a fast-growing phenomenon that is not particularly one platform with local ties worldwide but multiple platforms growing towards a desirable future together.

Furthermore, the type of transportation the cooperative platforms focus on are diverse. While most pose as an Uber alternative or promote car-sharing, others focus more at a larger-scale concerning transportation in the city and outside. Tapazz and Commune, Belgian and German respectively, are two European platforms that focus on the logistics concerning the effective combination of multiple modes of transport types and spaces. Tapazz presents users with soft- and hardware which makes it easier and more efficient for users to share, book, and use cars and reserve parking spaces. Commune is a platform that strives towards a “distributed ownership model for new urban transport infrastructures” which analyses user location and (shared-)movement data (Baer, 2013). The model offers a solution to individual and community issues brought forth by Uber, i.e. “exploitation of drivers, replacement of public transport, and automation as exclusion from intervention” (ibid.).

#### Cotabo in the field

Trends in European cities as well as governmental documents show use of P2P car sharing rather than civil taxi services, such as Uber or Cotabo. The Dutch Mobility plan of 2030 recognises the fast demand and transition towards a different mobility. It states that while the older population is staying mobile for longer, the younger generation associates less value to

having their own car while associating more value with personal mobility. Furthermore, the mobility vehicle systems see a change in demands for personal transport and that of products, as more products are bought through online stores and delivered at home. As a result, there is more traffic in cities of an increasingly different nature (Mobiliteitsallantie, 2017).

Similar to Airbnb, Uber has provided its users with quick, easy, and cheap transport as well as quick and easy income for drivers and therefore embodied the economic model into daily lives.

### 4.3 Digital Products Streaming Platforms: Spotify versus Resonate

#### *Cooperative reaction: Resonate*

Spotify is dominating the global music industry as the largest commercial music platform since its creation in 2006. Spotify, as well as its competitor Apple Music, as an alternative to piracy, have embraced the development towards on-the-go streaming of music over solely physical products. Only in 2016 did the first cooperative DPS platform, Resonate, entered the market.

#### A reaction towards the creation of cooperative platform

Resonate founder John Harris recognized that artists, who are the key element in the music industry, cannot make a living solely on DPS platform incomes. Harris decided to create a new DPS platform in which it works towards building “a new music economy based on fairness, transparency and cooperation” (Resonate, n.d. a). It strives to actively engage listeners, artists (and labels), and change the industry as a whole.

#### How does Resonate function?

The platform recognizes that subscription-based platforms lean towards presenting music merely as a musical wallpaper rather than recognizing the cultural value of it. Therefore, their business model is based on a ‘pay-per-play’, or *Stream2own*, model in which the platform “splits the costs of a digital download into 9 plays” which then becomes available for download, as it reaches its price of US1.29 dollars (Resonate, n.d. b; Morrison 2018), whereas it would take 340 streams on Spotify for a song to reach that price<sup>4</sup>. Reflecting the 9 plays needed to own a song, Resonate consists of 9 key elements when it comes to their innovative model, see Figure 3.

First, the DPS platform recognises that the current musical industry has become dysfunctional and a technological monopoly, especially when it comes to the dominance of major labels. Second, Resonate builds its business model on fairness, transparency, and cooperation in order to recognise, thirdly, the value of music as a form of art rather than only ‘streamable’ content. Fourth, the platform strives for artists to be able to make a career and a living from streaming, which until now, has not been possible through major platforms such as Spotify. Fifth, reflecting the foundation of cooperatives, Resonate will be owned by everyone who makes use of it, whether the consumer or the artists. Furthermore, individual data and the network are also owned by those who use it. A little less than half of the annual profits is distributed among artists, the remainder divided among the listeners and paid staff of Resonate, 35% and 20% respectively (Morrison, 2018). Sixth, the growing concern of big data breaches and trade have made a fight towards cooperative internet more hopeful, as these digital cooperative models aim to create a more equitable future of the internet through allowing the technological developments to benefit all rather than a handful of shareholders. Hand-in-hand is the 7<sup>th</sup> key element which states that the privacy and ethics components must be built into the design from the start, rather than as add-ons. Eighth, the platform understands the importance of recognising music as having cultural value which cannot be reduced to

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<sup>4</sup> US 1,29 dollars / US0,0038 dollars per stream = 339,47 plays

numbers or follower counts. Lastly, the platform strives towards active engagement among users, eradicating passive consumption of music (c.f. Resonate, n.d. c). It strives to boost the relations between listeners, artists and the industry, whether listener-listener, listener-artist, artist-artist, artist-industry, and industry-industry (Resonate, n.d. d)



Figure 7: The 9 pillars of Resonate (Author’s own design, based on Resonate, n.d. c)

In order to enable the trade, the DPS platform uses smart contracts which distribute the earnings efficiently, seamlessly, and transparently to the musicians through blockchain technology. Resonate reflects Kolosine’s belief that the music industry must embrace new technologies, invest into R&D, and support the change in consumer behaviour towards preferring digital streaming over owning physical copies. Harris, the founder of Resonate, states that “the music sector must not be dismissive of new technologies and developments such as blockchain” as it offers the music industry new (digital) opportunities (Morrison, 2018).

### Eliminating the Impacts of Spotify through Resonate

This research has identified five negative effects of Spotify on artists and labels, see Table 3, which include economic impacts such as low levels of royalties for artists, decline in preferences for physical copies, income tax evasion, and the creation of the platform’s own music for the company’s own gain, and lastly, the limiting of artist creativity.

Resonate tackles the low royalty issue through its *Stream2own* model, in which users ultimately pay US1.29 dollars per song, after 9 streams. As Resonate supports enabling a musical career for artists on its platform, it avoids this issue as evading this is one of the fundamental pillars that are in the design from the start.

Regarding the decline of consumer preferences for physical copies and increased preferences for on-the-go digital streaming services, the DPS platform recognises this as a genuine development in the music industry and therefore harbours it.

As mentioned previously, tax evasion of DPS platforms are in a lesser extent to other HST or mobility platforms, however, can still happen. Resonate does not mention a (trans-) national tax plan.

One of the fundamental elements of Resonate is to enable a sustainable musical career for artists on its platform and it is in the platform’s best ethical interest to support artists

equally. The platform stands for ethical and transparent trade of music, meaning an issue like this is against its fundamental beliefs.

Concerning creativity, Spotify limits artist creativity in order to increase chances to be included in top playlists. Although Resonate stands to provide equal opportunity for its artists, it does present listeners featured labels and artists, and presents “Staff Picks”, which currently composes of mostly experimental instrumental soundscapes, which can lead to biased promotion if continued when the platform grows.

### Resonate is not the only alternative to Spotify

Spotify and Resonate seem like they are placed on opposite poles, however, there several other DPS platforms that are located between the two. Bandcamp is one of such platforms. Although it is not a cooperative, the platform reflects some of Resonate’s fundamental elements. Started in 2008, it believes that “music is an indispensable part of culture, and for that culture to thrive, artists—no matter the size of their audience—must be compensated fairly and transparently for their work” (Bandcamp, 2019). This being its main mission, its business model has been built around it. It first became profitable in 2012 and distributes its profit by 15% of artists share on digital albums, 10% on physical copies, and 80-85% goes directly to artist. Though still focused on economic profit, Bandcamp states to have their interest aligned with those of the community they serve: “we only make money when the artists do” (ibid.).

While Resonate could seem rather radical for the music industry, the large-scale adoption of Bandcamp as a semi-commercial semi-cooperative gateway towards full cooperative platforms does hold potential for large-scale transformation of the music industry towards “a fair [and] sustainable music economy” (Bandcamp, 2019).

### Resonate in the (digital) field

Some smaller artists who have joined Spotify have spoken out on its ethics and transparency (Morrison, 2018). Other more popular artists have removed their music from Spotify in order to protest it, including Dr. Dré who joined Apple Music, and Jay-Z and Beyoncé moved their music to TIDAL, which is partially owned by Jay-Z. Other artists such as Taylor Swift have an on-off relationship with Spotify removing their music as they do not support free music. This suggest that artists are no longer passive actors on DPS platforms and can take matters into their own hands and initiate a change in consumer behaviour and spread awareness of the negative effects of the dominant commercial DPS platforms.

Concerning Resonate’s survival on the digital market, the platform is dependent on crowd behaviour and network effects, for the latter see page 12. Crowd behaviour and network effects go hand-in-hand when it comes to (re-)development of the norm. The users as well as artists/labels and the music industry must recognise the flaws of the current dominating platforms and be willing to make large shifts towards ethical streaming. Cooperative DPS platforms can only become genuine alternatives when their library as well as their users grow. The more people use the platform, the more valuable the platform becomes (Kenney & Zysman, 2016). This is necessary for both cooperatives and commercial platforms alike. Currently, Resonate is composed of around 200 artists and a handful of labels.



## 5 Predictions of Commercial and Cooperative Platforms

### 5.1 *The future of commercial platform giants: Airbnb, Uber, Spotify*

#### *Commercial Platform Giants*

The commercial giants are expected to remain in the top tier of the digital economy. With access to funding, they are endlessly trying to diversify their services to gain more ground. For example, Airbnb is diversifying towards building its own homes, Uber is developing private air transport, and Spotify is aiming to create exclusive content for paying users.

It is expected to see their similar business models reoccur in the next decade in the digital market with other businesses and start-ups. The three platforms are success stories of such new business models and act as inspiration for many others, who wish to follow in such footsteps. Ultimately, this leads to less diverse and less creative business models, which can make it harder for businesses following the model that Airbnb and Uber propose to survive in the digital market.

Backlash and protests regarding lack of health care, lack of benefits, and no retirement nor sick days will continue to happen without major change, e.g. not only add-ons. Protesters will increasingly recognise that the business model of the platforms are not benefitting the 'workers', which will open up an opportunity for cooperatives to present themselves as a solution.

Furthermore, tax evasion of the platforms is becoming more recognised at national and global scales (Kunashegaran, 2017). Governmental bodies and tax authorities will have increasing impact on the taxes on the generated money of the platforms. This will lead to new laws and regulations being drafted regarding the digital economy as a means of income. Governmental bodies are recommended to research this phenomenon in order to create and adjust laws for maximum effect.

#### *Airbnb*

Although HST platform Airbnb is faced with increasing backlash from society regarding its business model, the platform will continue to grow even under local and international additional laws and regulations that are set up by governmental bodies as a reaction to the negative effects of the platform at an individual and communal level. Governmental bodies in different countries are expected to draft new laws and regulations concerning the digital platform as a reaction to the negative effects and public concern and protest, as various countries are doing now, i.e. The Netherlands.

#### *Uber*

Current public, semi-public, and private transportation is ever changing. Envisioned futures hold ideas concerning fully autonomous vehicles and the removal of the private car shifting towards the preference of on-demand shared vehicles and ride sharing. Reflected in commercial platforms such as Uber, the ease and popularity of these car and ride-sharing platforms show this shift as a valuable addition to the transportation system. Flying autonomous vehicles to outrun congestion on the ground might seem like a distant future, but

Uber aims to already start providing these private aerial vehicles by the end of 2019. Considering these aerial developments, the four futures proposed by Deloitte, see page 18, might need an additional tier of aerial vehicles, whether fully autonomous, partially, or whether they still require a driver. The aerial developments proposed by Uber, and related transport giants, can lead to interesting technological advancements regarding automobile and transport technologies. However, these developments can lead to large-scale physical dis- and re-organisation of cities, increased congestion in the skies, increased future consumption, and segregation between social classes. The only hope is that Uber as well as other transport giants take their technological developments into consideration regarding three-dimensional city-wide (re-) development and social and environmental impacts, to name a few.

### *Spotify*

The digital audio streaming website and application is expected to continue to grow as well as maintain its #1 ranking in the top music streaming websites. Any artist or user backlashes of any sort have been minimal compared to the size of the company, and therefore, are expected to have minimal effect on the business model and the company's profit. It is expected that the business will remain as the global music streaming giant, unless there is a significant change in consumer behaviour towards preferring more ethical, fair, and transparent music streaming alternative.

### *5.2 The future of cooperative platforms: Fairbnb, Cotabo, Resonate*

Cooperative activists strive towards changing the way the internet is owned and governed. With rising numbers of global cooperative ecosystems and an array of digital platforms, the creation of more digital cooperative initiatives may become more valuable when they appear to hold potential to change the way the digital sphere functions. Without active governmental research into transitioning markets, products, or services, alternative business models like cooperative ones, will be unable to survive (Bartelsman, 2018). Therefore, triple and quadruple helix economic models can benefit such initiatives through governmental funding and public and private research through R&D and innovation labs. These labs encourage interdisciplinary participants creating prototypes for radical solutions for societal problems (Gryszkiewicz, Toivonen & Lykourantzou, 2016).

Concerning commercial platforms and cooperative reactions, these labs can research the (digital) market and the behaviour of its consumers. While the triple helix model focuses on the partnership between universities, institutions, and governmental bodies (Etzkowitz, & Leydesdorff, 2000), the quadruple helix additionally considers the behaviour and demand changes of the consumers (Carayannis, & Campbell, 2009). The latter strives to analyse what change the consumer (traveller, rider, and listener) and the independent contractors (host, driver, and artist) want.

Consumer behaviour and preferences tie into the needed network effects of a platform: the more people join, the more likely it is for the platform to survive the initial stages of start-up and grow towards an established platform. Without larger-scale changes in consumer behaviour towards preferring cooperatives, the platforms will continue to struggle to remain viable alternatives on the market. The preferences of consumers regarding the digital market is reflected in the behaviour of the consumer in the physical market. For cooperative platforms

to become genuine competitors of commercial counterparts or the norm in the new economy, network effects are key.

Just like commercial platforms, as cooperatives grow, governmental and tax authorities must recognise the need for new laws concerning taxes and understand which players are involved.

### *House-Sharing Tourism Cooperatives: Fairbnb*

Fairbnb holds much potential as a cooperative to enter the dominant commercial platform markets, however, struggles to collaborate with governments and municipalities. As Fairbnb aims to eliminate the negative effects of Airbnb in the physical arena of urban areas, municipalities as well as national governments are one of the key players for the cooperative platform. Without regulatory or financial support directly by the municipality or government, Fairbnb will face (unanticipated) struggles during start up development, which can either lead to the inability of Fairbnb to become embodied into the market or it can lead to its demise. If pursued correctly, utilizing all aspects, Fairbnb can pose solutions for socio-economic and urban problems governments and municipalities face that arise with overtourism and Airbnb. Through aiming to solve these urban problems, Fairbnb can receive direct municipal and governmental funding for better and more widespread implementation; first in the test cities in the Netherlands and Italy, and in later development in other European or non-European cities. Nevertheless, users must regard the cooperative as an established alternative in order to switch platforms. User preference as a host is diverse but shows an interest in community aspects as well as personal finance. Similarly, travellers' ethical preferences define their interest, while some still prefer cheap short stay fast-tourism, others prefer 'slow-tourism' with more 'sustainable' options.

Until now, Fairbnb aims to supply quantitative data to governments, e.g. number of tourists or duration of stay, however, it would be beneficial for the cooperative to supply governments with qualitative data as well, first and foremost as that is their primary objective: eliminating the socio-economic urban constraints of Airbnb. This data, combined with quantitative data, can measure the impacts of Fairbnb listings as well as their connected local social projects. Collecting the qualitative data will provide opportunities to check whether Fairbnb and their registered projects do genuinely help eliminate the socio-economic and urban constraints currently posed by Airbnb and whether the projects or governmental bodies are required to shift focus or level of implementation. Although collecting this data is not possible at this moment in time as it has not been yet launched in the test cities, after the second year of its launch, it can produce valuable quantitative as well as qualitative data.

Without help from municipalities or national governments (or international cooperation between Fairbnb and different national governments) it will most likely not be successful for widespread incorporation into the dominant market nor serve as a genuine large-scale competitor for Airbnb.

Furthermore, different language options benefit HST cooperative platforms for larger implementation and easier recognition and awareness. Established HST platforms which do not offer different languages limit their international growth. As Fairbnb recognises different European languages, it holds higher potential for growing on the international market.

### *Mobility Cooperatives: Cotabo*

As mobility commercial platforms hold the highest position in the transportation market, introducing a cooperative alternative that can genuinely compete with commercial giants is not doable without a global consumer turn towards a demand for more ethical alternatives. A dense and (inter)national network between different cooperatives can benefit emerging cooperatives. The network allows them to learn from others, promote each other e.g. availability of a similar cooperative platform in different cities, as well as collaboration between multiple platforms, e.g. logistics at a larger-scale and logistics of different types of transport. Mobility cooperatives will embrace the transition towards platform taxi services as well as P2P ride sharing by providing more alternatives, however, it is expected these will remain relatively small unless they are combined with a larger network.

### *Digital Product Streaming Cooperatives: Resonate*

Today organic, ethical, and free-range products have become a genuine competitor for large-scale factory produced foods, clothes, and other products. Search engine giants have seen a rise of an ethical counterpart called Ecosia, however, digital products like music go often disregarded. Ethical and fair issues are becoming more important in the digital market and therefore, it is expected that 'fair music' and fair streaming platforms will gain more ground. Although it will take many years to reach the top tier of the market as an ethical alternative, some consumers will eventually demand ethical music streaming as the new dominant norm.

Resonate is still relatively unknown to users as it is overshadowed by larger DPS platforms. Although it currently has a minimal library as well as genres, when larger and more well-known artists make the switch to Resonate, it has great potential to grow. This can lead to a bandwagoning or snowball effect, pulling the network effect to favour Resonate over other commercial platforms to ensure growth and creating a shift towards a new dominant platform. Furthermore, when larger artists decide to relocate access to their music, the overshadowed negative effects of Spotify will become more visible, which will also lead to favourable network effect for Resonate. Spreading awareness among listeners and artists about more (economically) ethical alternatives holds the most potential for Resonate to grow. The growth of such cooperatives will not only benefit the shareholders but can also lead to more popular use of cooperative business models for other platform purposes.

As Resonate grows it will face tax evasion issues like any other DPS platform. Until now, Resonate does not mention its (trans-)national tax plan. Although the cooperative is founded in Berlin, it being hosted on an Icelandic domain, these two countries must alter their tax laws in order to deduct income tax from the shareholders (users, artists, and paid staff). As the cooperative grows into a dominant DPS platform, other (national) tax authorities must recognize DPS platforms as a means of income and incorporate these into official laws regarding taxes, which is becoming increasingly more difficult through digital and trans-boundary money trade. Possible creation of a state-less tax authority specialised in international digital platforms may solve this issue, while also holding commercial and cooperatives responsible. Unlike HST and mobility, the digital platform takes place locally, so the tax authority can still split the data to check how much is used where.

## 6 Discussion and Conclusion

### 6.1 Discussion

This study investigated the reaction of cooperative lead platforms on commercial platforms in the new digital economy. Although cooperative modelled platforms are not a new phenomenon, their emergence in the digital economy is, and they are gaining market ground. Often starting as bottom-up start-ups, these platforms recognise the potential of existing (commercially led) services but also recognise where these existing commercial platforms harm society. Analysing commercial and cooperative platforms, this study takes one of both platform types into consideration in relation to three themes: House-Sharing Tourism (HST), Mobility, and digital product streaming (DPS) platforms. Through analysis, the positive and negative effects of the commercial platforms on socio-economic and urban aspects of society became clear, which were then used to understand how cooperative platforms aim to eradicate these by providing their own services.

Concerning the six platforms, two in each theme, the research presented predictions concerning the growth, changing focus, R&D, and their incorporation in the market.

HST commercial giant Airbnb is expected to continue growing, as well as governmental and public negative reaction on the platform. Some cities have made efforts to rigorously reduce the number of listings through tough policy and regulations, other cities are making agreements between Airbnb and governments. In Amsterdam, Airbnb and the local government have agreed on a tourist tax and bringing the number of allowed rental days down to 30, and further decreasing rental prices down by half (Accountant Week, 2019). London allowed residents to rent out their houses for up to 3 months per year, grossly benefiting Airbnb's British market share. Berlin revoked a ban on short-term rentals, now allowing homeowners to rent out their primary and secondary homes up to 90 days a year (cf. Tun, 2019).

Similar Uber, representing the commercial mobility platform, is expected to continue to grow as a taxi service platform but also fund R&D in aerial taxi services and autonomous ground and aerial vehicles. (Inter-)national and local governmental bodies are becoming increasingly concerned about the effects of the platform on the socio-economic and urban impacts, especially regarding safety inside and outside the vehicle, discrimination, competition of existing taxi services, and the (re-)organisation of city mobility. Similar to the public backlash on Airbnb, some European countries and cities have forbidden all or parts of Uber's services. These cities include Frankfurt, Barcelona, Budapest, and Sofia, where all Uber's services are banned. Denmark has banned Uber's services in the country entirely after the company's inability to comply to regulations (cf. Maudlin, 2019). In the Netherlands, Uber's ventures are far from over: although UberPop (drivers without a permit) was deemed forbidden in the Netherlands, UberX (drivers with a permit) as well as Uber Eats remain in service, and Uber Freight is aimed to make a debut (AD, 2017).

Lastly, Spotify, representing the DPS services, is expected to continue its growth. It has seen some backlash from artists but the impact of these is so minimal that it is not expected to impact the platform's growth nor lead to changes or additions to its business model. As the platform and its products are less tangible than the previous two, it has not been questioned, regulated, or banned in governmental contexts. However, as mentioned previously, some artists have decided to leave the platform.

The future of cooperatives is expected to play an increasingly important role, although their size is expected to stay small and underdeveloped compared to their commercial counterparts. It is expected that the large-scale success of cooperatives lies in the hands of the consumers, their demands, and their willingness to change their consuming behaviour. Network effects, tied in this, will ultimately result in the survival or death of the cooperative platforms on the new digital market.

Although the current state and model of Fairbnb is expected to hold potential to grow into a genuine competitor for Airbnb, its strategy needs to be developed further. Currently in the midst of its launch, the cooperative relies on financial support through crowdfunding. It is necessary for its large-scale and international survival that it gets governmental bodies on board for financial support. Through research, the cooperative can present to municipalities how it can solve various socio-economic and urban problems that arise through Airbnb. Cotabo, an alternative for Uber, is a well-established multi-service cooperative in Bologna, and is part of a larger cooperative taxi service network. Its widespread network holds potential for further growth and the spread of the idea of a cooperative taxi service, which is expected to lead other cooperative start-ups to form. Lastly, the larger-scale success of Resonate as an ethical and transparent DPS platform alternative is reliant on spreading awareness of the effects of DPS platforms such as Spotify, network effects of the platform (i.e. more artists leads to more listeners which leads to more artists, etc.), and the changing of consumer behaviour.

### *Reflection*

This study embarks on a new field of research: the digital economy and the dynamics of digital cooperatives' reaction to commercial platforms. It builds on previous academic studies to dive deeper into the interdisciplinary analysis of such reactions in three different themes, i.e. HST, mobility, and DPS platforms, in the context of various European countries and in the context of the global digital market economy. The research applies various methodological approaches to maximize understanding the impact of commercial digital platforms on the socio-economic and urban factors and evaluates the potentials of cooperative platforms in the growing digital economy. Qualitative data was acquired through semi-structured interviews with different academic experts, governmental bodies, entrepreneurs of a cooperative platform (Fairbnb), users of a platform (Airbnb), and reviewing various literature, (non-)governmental documents, and news reports. The research explores the potentials of cooperative structured business models for start-ups in the emerging digital economy, which can aid local and national governments drafting new laws and regulations concerning platform services and proved efficient governmental funding development and research through incubators and living innovation labs.

On the one hand, due to the newness and political sensitivity of the topic, data collection concerning commercial platforms as well as the proposed cooperative remained a challenge. The research struggled with governmental bodies who were reluctant to comment on the matter. Furthermore, Airbnb hosts were approached through the Airbnb website but data was limited due to the restrictions on the in-website chat: the inability to send links to a survey and unavailability to approach hosts without their willingness to cooperate which led to reducing the survey to a few questions without the opportunity to elaborate. Furthermore, the commercial platforms are difficult to approach as representatives put a positive swing on negative impacts or deny them altogether. Similarly, governmental bodies were reluctant to share insights on the matter due to political risk. Regarding the latter, the effects of Fairbnb

on individuals and communities could not be analysed due to it not yet having been launched. This meant there is no data available to compare effects Fairbnb and community projects, which can be resolved by analysing the effects of the new cooperative after a few years after its launch. Nor could many academic experts nor users be interviewed on the matter as the cooperative platforms were not well known or established.

On the other hand, the broad topic allows for broad and diverse further research studies. First, research into the involvement of governments and research centres to facilitate, encourage, and regulate commercial and cooperative platforms. Second, researching into platform and product creation in the new digital economy. Unlike previous start-ups, which put their product through assessments and keep to national and international regulations, platforms such as Uber put their product “out there, and see what happens” (Frenken, 2018). Creation and distribution of a digital product is fast and cheap and only after negative effects become visible at a local scale; governments must react which often leads to laws being made without researching the true extent of the effects. Therefore, research into the effects of commercial platforms and their cooperative counterparts can help illuminate whether cooperative alternatives indeed help eradicate the negative effects of commercial platforms. Lastly, further research can analyse the opportunities for start-up innovation through living labs with governmental and private guidance and funding.

## *6.2 Conclusion*

Fairbnb, Cotabo, and Resonate are only three cooperative reactions to their commercial platform counterparts. There are many more ranging from blockchain cooperatives to agricultural to academic research platforms. This reflects the demand for bottom-up cooperative reactions. In order to compete with commercial giants, cooperatives must join forces among other cooperatives and between governmental bodies. The cooperatives must become part of a larger cooperative start-up network for global recognition, support, and growth of users and providers (i.e. traveller/hosts, rider/drivers, and listener/artists). Further, triple and quadruple helix structures can provide funding as well as research labs facilities and (living) innovation labs combining different actors spurring innovation, e.g. (semi)-governmental, academic, private, and civil.

The main research question of this thesis aimed to investigate whether cooperative platforms can help eliminate the known socio-economic and urban constraints in the context of Europe and the global digital market put forth by commercial platforms in the three themes of HST, mobility, and DPS. By analysing the socio-economic and urban effects of the three chosen commercial platforms, the reaction and potentials of cooperatives on these, and the future of these cooperative counterparts onto the current digital world markets, this research concludes the following: In support of the main hypothesis, these cooperative platforms hold much potential towards eliminating these socio-economic and urban effects of their commercial counterparts and can further develop positive effects of P2P house-sharing digital platforms. However, without large scale governmental support through funding, triple and quadruple helix models, and innovation labs, nor large-scale shifts in consumer behaviours preferring more cooperative and ethical structures, the developments of the current commercial platform giants will not cease to make way for other less traditional business models and remains dominant in the global digital economy as it is today.

Due to its high social relevancy, it is important to continue the study of cooperative platforms as a reaction to commercial giants because, although digitally manifested, the

playing field of the digital entity is physical, bearing great consequences on all levels of society, whether local economies or trans-national global markets. Cooperative platform reactions give voice to bottom-up entrepreneurs who recognise the flaws in giant commercial platforms and desire a new economy, and they are increasingly gaining economic ground: “while it seems like a race to the top already won by commercial businesses, others are more hopeful. Everything is converging towards a more collaborative economy. Free people economically and they are free to explore different opportunities for which they truly care for together” (Wood & Meier, 2017).



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