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**“CAN SHARING ECONOMY REDUCE THE ASYMMETRIC INFORMATION
BETWEEN VENDORS AND CONSUMERS? THE CASE STUDY OF LISTNRIDE”**

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Table of Contents

Abstract	3
Introduction: Sharing Economy in the Urban Society	5
Chapter 1: What is the Sharing Economy?	
1.1 A definition of Sharing Economy	6
1.2 Why people participate in the Sharing Economy	8
1.3 The Key Actors of the Sharing Economy	10
1.4 Different Business Models.....	14
Chapter 2: The problem of asymmetric information and the solution provided by the Sharing Economy	
2.1 The problem of asymmetric information	17
2.2 Which tools does the Sharing Economy use to reduce asymmetric information?.....	19
2.3 The improvement reached by the Sharing Economy: Users' Trust.....	23
Chapter 3: The case study of <i>listnride</i>	
3.1 An overview of the Bike-Sharing Market.....	28
3.2 <i>listnride</i> : the “ <i>Airbnb</i> for bicycles”	31
3.3 How <i>listnride</i> increases Users' Trust.....	33
Conclusions	38
References	39
Websites	41

Abstract

Negli ultimi dieci anni il fenomeno della Sharing Economy ha visto coinvolti sempre più settori economici. Dai settori degli alloggi e dei trasporti, con il grande successo di *Airbnb* e *Uber*, a quelli della ristorazione, dei servizi domestici e molti altri, le piattaforme di condivisione online stanno influenzando vari ambiti economici offrendo soluzioni semplici e pratiche per molte situazioni quotidiane. L'evidenza del successo di questo nuovo modello economico risiede nel numero sempre crescente di utenti di queste piattaforme online.

La Sharing Economy, oltre alla sua capacità di apportare soluzioni per situazioni quotidiane, sembra anche capace di ridurre uno dei fallimenti di mercato più frequente nei mercati tradizionali, ovvero le asimmetrie informative tra il consumatore e il venditore. Lo scopo di questo elaborato è, dunque, quello di analizzare se la Sharing Economy è in grado di ridurre queste asimmetrie informative attraverso il caso studio di *listnride*, una giovane piattaforma online che opera nel settore del bike-sharing.

Prima di procedere con il caso studio, viene fatta una presentazione generale del fenomeno della Sharing Economy (Capitolo 1) dove vengono definiti le sue caratteristiche distintive, gli attori principali e i modelli di business utilizzati dalle piattaforme di condivisione online. Dopo di ciò, si procede con la definizione del problema delle asimmetrie informative nei mercati tradizionali e si espongono le soluzioni proposte delle piattaforme online (Capitolo 2); in particolare si analizzano i meccanismi reputazionali e di feedback implementati nelle piattaforme online per generare fiducia sia fra gli utenti che costituiscono le due parti dello scambio, sia fra gli utenti e la piattaforma. Da quest'analisi si deduce che, una misura valida per l'efficacia di questi meccanismi è il numero di transazioni che avvengono nella piattaforma. Infatti, per i business online la fiducia è un requisito fondamentale affinché avvenga lo scambio tra le parti. In particolare, un aumento nel tempo del numero di transazioni indica un effetto positivo dei processi reputazionali e di feedback nel generare fiducia, e dunque nel ridurre le asimmetrie informative.

Nel capitolo finale (Capitolo 3) si espone il caso studio di *listnride*. Questa giovane piattaforma online di bike-sharing possiede due caratteristiche peculiari che la distinguono dai classici servizi di bike-sharing e di noleggio biciclette online. La prima caratteristica è l'ampia offerta di bici, soprattutto bici da strada o da cross, bici elettriche, da carico o pieghevoli che difficilmente si trovano online disponibili per il noleggio a prezzi competitivi. La seconda caratteristica riguarda il portafoglio di servizi offerti da *listnride* che prevede un programma di "test-ride" dove i potenziali clienti hanno la possibilità di testare una bici prima di acquistarla.

E' importante sottolineare questi due aspetti per non collegare il successo della piattaforma ad un fenomeno settoriale. Dopo la presentazione dei meccanismi reputazionali e di feedback utilizzati da *listnride*, vengono mostrati i noleggi per trimestre avvenuti nella piattaforma negli anni 2017 e 2018, tra i quali risulta un notevole aumento tra il 2017 e il 2018. Ciò suggerisce un effetto positivo dei processi reputazionali e di feedback nel ridurre le asimmetrie informative.

In conclusione, come risulta del caso studio, la Sharing Economy è in grado di ridurre le asimmetrie informative tra venditore e consumatore. Non solo deve saper ridurre questo fallimento di mercato, la Sharing Economy deve anche considerare il superamento delle asimmetrie informative come un requisito fondamentale per generare business di successo.

Introduction: Sharing Economy in the Urban Society

Do you need a cab? The chances are you click on your *Uber* or *Blablacar* app and book a ride rather than call or wait for a taxi. Are you looking for an accommodation for your holidays? *Airbnb* offers hundreds of different accommodations (from single rooms to entire houses) in almost any destination city in the world. The new Ikea shelving system you bought is too hard to put together? With *TaskRabbit* you can have someone at your door almost instantly, with a wrench in hand, ready to help you. Are you too tired to cook tonight? You can book a dinner on *Gnammo* and try homemade food while getting to know new people.

These examples are not a representation of the future. These are common situations from everyday life: transportation, accommodation, professional services, restaurants and many other industries have been radically changed by the Sharing Economy. A new economic model growing fast and reaching new economic sectors every day. Platforms like *Airbnb* and *Uber* have now become established businesses with high revenues and a strong brand identity in the accommodation and transportation services respectively. In 2017, over 100 million travellers chose *Airbnb* to find their accommodation and an average of more than 15 million rides per day were booked on *Uber*. These numbers show that the Sharing Economy has become a successful business model.

These companies owe their success partly to the innovative solutions they offer to city life problems, and partly to the reduced transportation costs that normally incur in the exchange of goods or services between companies and consumers. As a matter of fact, the Sharing Economy found its success by offering innovative solutions to the challenges of life in crowded urban areas: it efficiently provides city residents with a range of goods and services that they would otherwise need to spend time and effort obtaining or doing on their own. The Sharing Economy has the potential to make urban workers more productive generally (Davidson and Infranca, 2016).

In particular, the Sharing Economy sees the anonymity of urban life as a source of competitive advantage and a market niche to develop. The Sharing Economy generates new social capital because in this business model people share human and physical resources at different levels of social and economic life. The people involved share creation, production, distribution, trade and consumption of goods and services with other people or organizations. This great level of sharing explains why mechanisms such as rating systems and online direct communication have become fundamental characteristics for Sharing Economy platforms: they are needed to build trust and create valuable markets, where people can feel secure enough to share goods and services with others.

An economic model based on sharing and trust is not something new in our society. In fact, a similar model was associated with the pre-urban communities. What is new is its application. The Sharing Economy provides efficient solutions not only to everyday situations (such as finding an accommodation for your holiday, a parking lot for your car, a ride to work or a pet-sitter for your dog), but it also seems to provide a solution for a typical market failure in the traditional market: the asymmetric information between vendor and consumer.

In this paper, I will analyse the Sharing Economy and its mechanisms to build trust, in order to discuss if it can actually provide a solution to the market failure of asymmetric information between the parties involved in an exchange. In particular, to discuss this point, I will develop a case study of *listnr*, an online bike-sharing platform from Berlin. First, I will give a definition of Sharing Economy and its key actors (Chapter 1) and present the problem of asymmetric information in the traditional market (Chapter 2), before proceeding with the case study (Chapter 3).

Chapter 1: What is the Sharing Economy?

1.1 A definition of Sharing Economy

Before giving a definition of Sharing Economy, it is important to note that other terms are often used to express this concept. Some examples are: Access Economy, Collaborative Consumption, Collaborative Economy, Connected Consumption, Gift Economy, P2P Economy, Pay-As-You-Use Economy, Rental Economy, Reputation Economy, Shared Capitalism, Trust Economy, Uber Economy and many others. Overall, these terms all express the same concept of “Sharing Economy”, but they mainly focus on a specific aspect of this phenomenon. Due to the number of terms and definitions in use, defining the Sharing Economy is not as simple as defining other economic models. For this reason, I decided to present three different definitions that focus on different aspects of the Sharing Economy and derive from them a general definition for this new economic model.

The first definition is the one given by the European Commission on its report about Collaborative Economy for the period 2013-2017 (European Commission, Single Market Scoreboard, Performance per Policy Area, Collaborative Economy, July 2018):

“The Collaborative economy refers to business models where activities are facilitated by collaborative platforms that create an open marketplace for the temporary usage of goods or

services often provided by private individuals. The collaborative economy involves three categories of actors:

1. Service providers who share assets, resources, time and/or skills — these can be private individuals offering services on an occasional basis (“peers”) or service providers acting in their professional capacity (“professional service providers”).
2. Users of these services.
3. Intermediaries that connect – via an online platform – providers with users and that facilitate transactions between them (“collaborative platforms”).

Collaborative economy transactions generally do not involve a change of ownership and can be carried out for profit or not-for-profit.”

The second definition is given by Wikipedia (July 2018, https://en.wikipedia.org/wiki/Sharing_economy): “Sharing economy is an umbrella term with a range of meanings, often used to describe economic activity involving online transactions. Originally growing out of the open-source community to refer to peer-to-peer based sharing of access to goods and services, the term is now sometimes used in a broader sense to describe any sales transactions that are done via online market places, even ones that are business to business (B2B), rather than peer-to-peer. For this reason, the term sharing economy has been criticised as misleading, some arguing that even services that enable peer-to-peer exchange can be primarily profit-driven. However, many commentators assert that the term is still valid as a means of describing a generally more democratized marketplace, even when it's applied to a broader spectrum of services. Alternatively, collaborative consumption or the sharing economy refers rather to resource circulation systems which allow a consumer two-sided role, in which consumers may act as both providers of resources or receivers of resources. This vision allows for a broader understanding of the sharing economy on the overarching criteria of consumer changing role capacity.”

The third definition is the one given by Alex Stephany, CEO of *JustPark* (an online platform to share parking lots in the UK), in his book *The Business of Sharing Economy. Making it in the New Sharing Economy*. “Sharing Economy is the value created when making under-utilised resources available online to a big community, reducing people’s need of owning these resources”.

First of all, from these definitions, we can line out the three main characteristics of the Sharing Economy. The first characteristic is the kind of economic relationship established between the parties in the exchange: this relationship is mainly a C2C (consumer to consumer) or peer-to-peer relationship. The second characteristic is the purpose of the relationship: the main aim of the exchange in the Sharing Economy is not the transfer of ownership stake, but rather the

temporary access to a specific good or service. The third characteristic is the object of the exchange, which can be a physical or non-physical good, a service or a specific knowledge owned by an individual: what counts the most is that often the asset is underutilised.

Putting together these three main characteristics, it is possible to derive a fourth definition of the Sharing Economy. In general, this new economic model can be defined as: “The sharing economy enables a shift away from a culture where consumers own assets (from cars to drills), toward a culture where consumers share access to assets. This shift is driven by internet peer-to-peer platforms which connect consumers and enable them to make more efficient use of underutilised assets. In this framing the sharing economy consists of peer-to-peer internet platforms (including *Airbnb*, *Uber*, *TaskRabbit*, *Just Park...*) which empower individuals to monetise their underutilised assets, time and skills” (Martin, December 2015).

The above definition underlines an important aspect of the Sharing Economy. Its fundamental concept is to own less and have access to more. A noble idea, but sharing does not always mean caring, particularly if it is done for compensation and with total strangers (Ranchordas, 2015). So, after the definition of Sharing Economy, another point to define is why do people participate in the Sharing Economy and if they do so, is it because they care about others and want to share their goods or skills within the community they live in or not?

1.2 Why people participate in the Sharing Economy

Schor and Fitzmaurice (2014) in their study on the reasons why people participate in the Sharing Economy, found that there are three main motivations. The first is economic. Peer-to-peer online platforms are able to re-distribute value across the supply chain: they deliver more value to both consumers, reducing transportation costs and vendors, creating new earning opportunities. For example, in the homepage of *Uber* you can find this slogan as a reason to become an *Uber* Driver: “Drive when you want. Make what you need. Driving with *Uber* is flexible and rewarding, helping drivers meet their career and financial goals” (*Uber*, <https://www.uber.com/en/de/>). Moreover, users of online sharing platforms can be both consumers and sellers, increasing their value in both roles.

A second reason for people to participate in the Sharing Economy is environmental. Most online sharing platforms advertise their green credentials and the lower impact they have on the environment, because instead of buying new goods, people exploit those that they already have as much as possible. *Etsy*, for example, an online sharing platform where people can sell and

buy accessories, clothes, toys, tools and much more, publishes a yearly report on their efforts to minimise environmental harm and maximise the benefit they create for people and the planet.

The third reason why people register on online sharing platforms is to increase social connection and build social networks. This is also advertised by online sharing platforms themselves as a main feature of their businesses. *Blablacar*, for example, in the section “About us” of its website, talks about its social impact: “Carpooling creates a unique space, enabling exchanges between people who might have never met otherwise but who come together to share a ride”. (*Blablacar*, <https://blog.blablacar.com/about-us>)

Schor and Fitzmaurice also found two other relevant aspects that persuade people to participate in the Sharing Economy. The first is “technophilia”, which by definition is the love or enthusiasm people have for advanced technology. People participate in the Sharing Economy because they like using the Internet to do things efficiently and easily. Think about *Airbnb*. Nowadays, if you want to rent your place for a short term, you can simply create a profile on their website, list your accommodation and just add a couple of nice pictures. Plus, you can do it comfortably from your sofa: all you need is a computer and an Internet connection. The sophisticated interfaces offered by many online sharing platforms are also part of the appeal. The second reason that enhances participation is a political and ideological factor. Schor and Fitzmaurice found out that many participants to their study are ideologically committed to the concepts of sharing and collaborating. In particular, many users seem to criticise the traditional market, considered as a scenario of impersonal exchanges between firms, that just try to make their products outdated before time, and people, who are constantly induced to consume more. In general, Schor and Fitzmaurice explain that for many participants, especially early adopters, joining sharing or swapping initiatives is an intentional political act with the purpose of helping to construct an alternative to the traditional market, a new market that produces personalized exchange relations.

Whether their reason is of economic, environmental, social, political nature or comes from a love for technology, the number of people participating in the Sharing Economy is continuously increasing. Evidence lies in the number of users of online sharing platforms. For example, in 2016 in Italy, 121 thousand people registered as hosts on *Airbnb* and 5,6 million people rented an accommodation. Although they represent a significant category, users of online sharing platforms are not the only stakeholders in the Sharing Economy. I will present the most important key actors of the Sharing Economy in the next paragraph.

1.3 The Key Actors of the Sharing Economy

The choice of definitions I presented in the paragraph 1.1 is not casual. In fact, the three definitions come from the three main actors involved in the Sharing Economy: users of online sharing platforms (represented by Wikipedia users), the online sharing platforms themselves (represented by the CEO of *JustPark*) and the regulatory authorities (represented by the European Commission).

The first key actors in the Sharing Economy are the online sharing platforms. Conceived as peer-to-peer businesses through which people can sell or rent for short terms goods or services, online platforms have become the new marketplace of the Sharing Economy. They play the role of the intermediary in the transactions between their users. Their core business concept is based on the fact that they provide an easy and efficient solution for both parties in a transaction: people who are looking for a specific good or service and people who are offering their assets, time or knowledge. In this sense, online platforms can also be defined as producers. A characteristic most online platforms share is that they were born to give a solution to problems of everyday life. For example, *Airbnb* was born in 2007 from the idea of Brian Chesky, a 26-years-old designer from San Francisco. Brian did not have enough money to pay the rent at that time, so during the annual reunion of the Association of Industrial Designers he offered mattresses and breakfast at his place to earn some money and called his initiative Air Bed and Breakfast. Another example is *Taskrabbit*, an online marketplace where people can find help for household duties. It was founded in 2008 by Leah Busque, a mathematician and programmer working for IBM in Boston. During a winter night, Leah and her husband were late for a dinner, when they found out that they had run out of food for their dog and could not find a solution that could make them both take part to the dinner and feed their pet: this was when Leah developed a first idea of the website. *Kickstarter*, an online platform to collect funding for creative projects, was born from the need of its founder Perry Chen to collect money for an event. In 2001, Perry was looking for funding to organise a musical event for the New Orleans Jazz Festival, but unfortunately, he could not find any support. It was from this episode that he realised the need for an online platform where artists could fund their projects, not from big investors but directly from their public. An interesting case is *Gnammo*, an Italian platform for social eating. *Gnammo* was first launched in Italy in 2012. Gian Luca Ranno had a first idea of this platform during a dinner with friends. All the participants complimented the cook and suggested him to open a restaurant, but he complained that opening a restaurant in Italy was too expensive and added that he liked to cook just in a few occasions, for friends or to meet new people. Listening to this conversation, Gian Luca started thinking about an online platform

where people could be *cookers* and offer dinners or lunches at their place and ask *gnammers* to participate in these events.

All these examples are important because they proof that online sharing platforms are born to provide a solution to problems of everyday life, but also because they offer us an overview of the economic sectors the Sharing Economy can reach. Accommodation and transportation, with the great success of *Airbnb* and *Uber*, are not the only industries affected by the Sharing Economy. Even professional services with platforms such as *Taskrabbit*, have now found a new marketplace where they can have more demand and more supply. Financial services, with new platforms such as *Kickstarter*, have now reached a new dimension: the crowdfunding, which means that everyone can contribute in financing a project. And restaurant services too, thanks to platforms such as *Gnammo*, have now reached the new dimension of social eating, which values eating as a social activity and as a chance to meet new people. Especially in the case of restaurant services, but not limited to, online sharing platforms performing in already existing economic sectors shed light on an important issue: how to regulate these new businesses? Should they follow the same rules established for traditional businesses or should they follow new rules, specifically created for them? This topic introduces another key actor of the Sharing Economy: the regulatory authority.

The introduction of a new economic model always implies the involvement of the regulatory authority. In particular, the relationship between law, regulation and innovation can have three outcomes. First, regulation can hinder innovation by placing excessive burdens on entrepreneurs. Second, law and regulation may facilitate the introduction of innovations in the market, notably by waiving requirements or the observance of standards, granting exemptions, or authorizing companies to develop novel activities and projects on a temporary or permanent basis. Third, regulation can have no direct effect on innovation and only accidentally foster it, since innovation might simply emerge “serendipitously” (Ranchordas, 2015). In the case of the Sharing Economy, the outcome of this relationship is not so clear. On the one hand, firms operating in the traditional market ask for specific laws that protect their status from potential new entrants on the market represented by online sharing platforms. In the opinion of the “traditional” firms, law and regulation should limit the activity of online sharing platforms. On the other hand, the success of online sharing platforms, that are registering an increasing number of users, persuades the regulatory authority to facilitate the introduction of this new economic model. Therefore, regulating the Sharing Economy requires balancing different interests: state and local authorities and policy-makers must ensure that stakeholders in the Sharing Economy

and third parties are protected by the law. Due to these conflicting interests, the role of regulatory authority in the Sharing Economy is still not well defined.

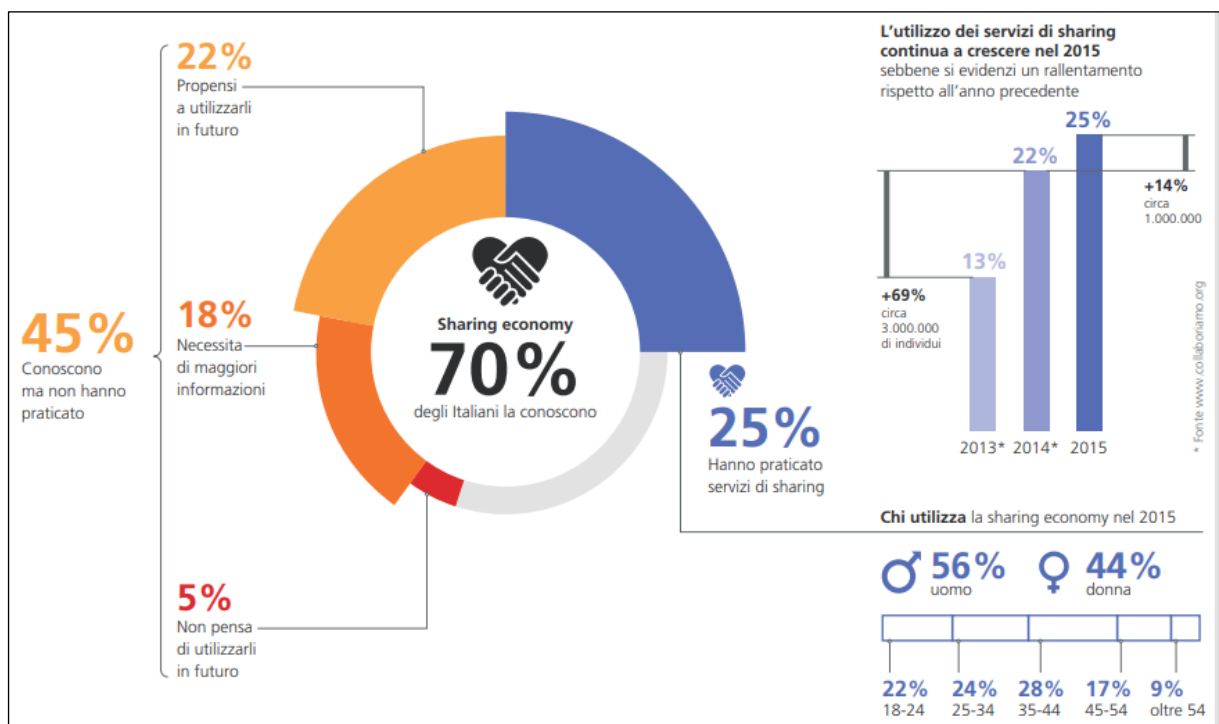
Finally, as mentioned earlier, one of the most significant key actors of the Sharing Economy is represented by the users of online sharing platforms. An important aspect to consider is that users on these platforms can be both entrepreneurs and consumers, according to their needs. In some cases, they don't even need to specify their role at the time they register. For example, on *Blablacar* one can simply register on the platform as user and later decide to offer a ride to other users. Whether they register to offer goods or services or to enjoy them, it is interesting to analyse who these users are.

Because the Internet and mobile devices constitute the main scenario where the Sharing Economy operates, it is not surprising that most users of online sharing platforms are young people. Statistics from the USA show that young people between 18 and 35 represent the 48% of online sharing platforms users. Adults between 36 and 54 represent the 33%, and the 55+ represent the 19% of the users. On the other hand, European statistics show that people between 25 and 39 years-old are the 27% of users; younger people between 15 and 24 represent the 18%, adults between 40 and 54 years-old the 22% and the 55+ represent only 10% of the users (data from Vision Critical). An interesting study conducted in 2016 in 28 European countries by TNS Political & Social Network tried to assess the awareness of the Sharing Economy among the population. Results show that more than half of the participants was aware of this phenomenon, and in particular 15% had already tried one of its services at least once. In general, younger users with higher education, labour income and living in urban areas are the most informed about the Sharing Economy they represented two thirds of the total number of participants to the study. One third within this category of participants to the study had also used an online sharing platform at least once. This study from TNS analysed the supply side as well. In Europe, more than one third of users who visited an online sharing platform, also offered a service in the same platform. More into detail, 10% of this subcategory offers a service once a year, 20% offers a service more than once a year and 5% offers a service regularly every month.

I will now focus on Italian users of Sharing Economy platforms. A study conducted in October 2015 by TNS Kantar, shows that 70% of Italians knows what Sharing Economy means. In particular, 45% knows the term Sharing Economy but never tried any online sharing service and 25% actually uses Sharing Economy-based services. Another interesting point of this survey is the analysis of what the 45% of Italians who never tried any Sharing Economy service thinks about this new phenomenon. Results show that 22% of them are willing to use Sharing

Economy platforms in the future, 18% would need more information and only 5% are not willing to use it in the future. The study looks further into the characteristics of the 25% of Italians who do use Sharing Economy services. Differently from the results of American and European statistics, in Italy the biggest percentage of online sharing platforms users is represented by adults between 35 and 44 years-old, as they make up 28% of the total users. Young people between 18 and 24 years-old represent the 22%, young adults between 25 and 34 years-old the 24%, adults between 45 and 54 years-old the 17% and adults older than 55 years-old make up only 9% of the total. From the Figure 1, it is clear that the number of Italian users in the Sharing Economy increased significantly from 2013 to 2015. This increase shows how the phenomenon of the Sharing Economy is spreading in Italy too and that online sharing platforms are intensifying their presence in this country.

Figure 1: Italian users of the Sharing Economy



(source: TNS Kantar, Study on Sharing Economy in Italy, 2015)

To conclude, it seems clear that the majority of Sharing Economy users are young people between 20 and 35 years-old, who are usually more confident with the Internet and mobile devices and can use online sharing platforms more easily.

1.4 Different Business Models

After the short introduction on the key actors of the Sharing Economy, it is important to analyse how these actors operate in the economic scenario. In particular, I will now present the different business models used by online sharing platforms to compete in a specific market and generate revenues.

Before starting with a presentation of the different business models, it is important to introduce a fundamental characteristic of online sharing platforms: the trade-off between minimizing transaction costs for users (i.e. search and deliberation) and optimising the use of information to match the two potential sides of the exchange, vendors and consumers (Codagnone and Martens, 2016). Basically, what online sharing platforms do is trying to reduce the time that their users spend looking for a specific good or service or for potential customers, and optimising the information they get from users to help them find the ideal partner for the exchange. Online sharing platforms also try to find a compromise between reducing transaction costs and improving the use of information in presence of a high level of heterogeneity in the supply and consumer preferences. There are three categories that present the most heterogeneity in online sharing platforms: preferences of consumers; suppliers and consumers; the object of transaction. For example, *TaskRabbit* presents high heterogeneity in terms of users, requested tasks, skills and price offered by the suppliers. Costs and differences in tastes create a fair degree of heterogeneity for *Airbnb*. And this is the reason why the platform is designed in a fairly decentralised manner too, with little control over the key terms of the interaction between hosts and guests. *Uber*, instead, has a high heterogeneity in users only. In fact, it needs to match the driver and the customer in real time, especially in peak hours and, as a consequence, the type of car and the type of driver are probably less important factors than getting a ride at the right time. This led to a very centralised design of the platform and a high level of control over the key terms of the interaction.

This core characteristic of online sharing platforms explains the origin of their business. These platforms generate revenue by providing a trade-off between minimizing transaction costs and optimizing the use of information. They charge money to their users for providing this service and this is how they grow their business. They charge their users in different ways, and for this reason the business models which online sharing platforms operate through are different. In the literature of the Sharing Economy, the main business models are five: service fee, subscription fee, membership plus usage, white label and two-sided market.

The first and most common business model used by online sharing platforms is the *service fee*. According to this model, the platform charges its users a fee by keeping a percentage from the monetary value of the exchange. The platform can decide to charge a fee only to one side of the transaction or to both. *Gnammo*, for example, charges only the consumers, who in this case are the *gnammers* booking a meal. *Taskrabbit*, on the contrary, charges the *taskers*, so the people who offer their time and skills. *Airbnb* instead, generates its revenue by charging both parties, the people who are renting their places, and the consumers, people who are looking for a short-term accommodation.

The second business model is the *subscription fee*. In this case, the platform charges its users a fixed subscription fee, which does not depend on the number of transactions made. An example of a platform that uses this business model is *HomeExchange*. *HomeExchange* is an online sharing platform where people can exchange their houses for a short time. After the registration, which includes a subscription fee of 130€, people can look for houses where they would like to spend a short time, and make a proposal to the owners of these houses. Before agreeing on the exchange, the platform allows the two parts to have a direct communication through an online chat integrated in the website and to organise a conference call on Skype (or other VoIP systems), so they can get to know each other. The model of the subscription fee can also have some variations. For example, a platform can decide to use the *freemium model*, which means that the basic services are free and users pay additional services only. *Spotify* is a great example of how the *freemium model* works: if people do not want advertisement to interrupt their playlists, they have to pay for the premium version. Another variation to the subscription model is the *tiered subscription*. In this case, the platform charges its users different prices for the membership depending on the level of usage that users have of its service. *Netflix* implements the *tiered subscription* business model: the more you want to have films and series available for you to watch, the more you have to pay.

The third business model is the *membership plus usage*. This model requires that users pay a membership fee to have access to the service and in addition they pay every time they use the service. This model is typically used in car-sharing and bike-sharing platforms that provide their service in metropolitan areas. For example, *BikeMi*, a bike-sharing platform operating in the city of Milan, offers an annual or occasional membership fee to have access to the bikes and charges a fare depending on how much time the users ride the bikes.

The fourth model is called *white label*. According to this model, the platform offers a paid service to institutions, organizations and firms and, with the revenue the platform generates, the service stays free for the consumers. An example of this business model is *Timerepublik*.

Timerepublik is an online sharing platform where people can offer their skills and knowledge for specific services in exchange of time credits. These time credits can be spent on the platform to receive some services from other users. In this sense, *Timerepublik* can also be considered as a social network. To keep the service free for the users, the platform licenses its brand to companies, institutions or associations that want to implement the commitment of their employees, citizens or associates.

The last business model I will analyse is the *two-sided market*. Platforms that use this model offer a free service to their users, thanks to the revenue they generate selling advertising space on their website. This is the case of *Couchsurfing*. *Couchsurfing* is an online sharing platform where people can offer or get an accommodation for free. This is a classic example of “gift economy”: people in fact do not earn money and do not ask for a return. *Couchsurfing*’s motto is “Stay with locals and meet travellers”. Born as a non-profit platform, *Couchsurfing* had to change into a venture capital, but to keep its service free for users it sells advertising space on the website.

The business models outlined above are the main models used by sharing platforms in the Sharing Economy. But there is another model worth mentioning: auction. The auction mechanism can also help in coping with the trade-off between transaction costs and efficient use of information. A master example of this model is *eBay*. *eBay* is an online platform where people can sell a wide range of goods, from home and garden accessories, to electronics, motors and much more. The sale system is auction: people sell their goods to the best bidder, and *eBay* charges the seller a fee based on the final value of the auction. Although *eBay* is a successful business, auctions can be difficult to carry out and time consuming. Auctions also imply a lot of effort from the platform in order to offer a good balance between reduced transactions costs and efficient use of information. For this reason, a decline in the number of digital platforms that use auction mechanisms has been detected, while there is an increasing number of platforms that adopt service fee or subscription fee as a business model instead.

This chapter offered a general overview of the phenomenon of the Sharing Economy, presenting its key actors and main business models. In the next chapter, I will go deeper into the topic of asymmetric information and how the Sharing Economy can reduce this market failure.

Chapter 2: The problem of asymmetric information and the solution provided by the Sharing Economy

2.1 The problem of asymmetric information

Before starting with the analysis of the solutions provided by the Sharing Economy to this market failure, it is important to define the problem of asymmetric information and show which are its consequences in the traditional market.

Asymmetric information, also known as *information failure* or *market failure*, occurs when one party of an economic transaction possesses greater information regarding the object of the transaction than the other party. This normally happens when the seller of a specific good or service has greater knowledge about it than the buyer. But the reverse case is also possible. A typical example is the stipulation of an insurance contract: the person who asks for a health insurance coverage knows his predisposition for specific illnesses better than the insurer. In general, almost all economic transactions are affected by asymmetric information.

Asymmetric information can lead to economic advantages and disadvantages. It drives to economic advantages and is considered a desired market outcome when the party who has greater information uses it to help the other party and improves the outcome of the transaction. An example can be a specialized worker who, thanks to his specialization, is more productive in his field and can provide greater value to workers in other fields. Think of a factory which produces using the system of assembly-line: if a worker in a specific point of the line is more productive thanks to his specialization, the whole line is more productive. Although asymmetric information can be a desired market outcome if used in a way that increases the value of a transaction's outcome, it often takes to economic disadvantages. In facts, the party who has greater information usually exploits it in an undesirable or dishonest way. This can lead to two different consequences: the moral hazard and the adverse selection.

Adverse selection occurs when, due to asymmetric information, one party of the transaction, usually the one who has less information, is driven to take less efficient economic decisions, such as doing more business with less-profitable or riskier market segments. A typical case of transaction affected by asymmetric information that leads to adverse selection is the case of the insurance contract. Insurers usually find that high-risk people are more willing to stipulate an insurance contract and pay higher premium policies. Hence, by increasing the premium policies, an insurance company has more money to pay benefits to its customers. But, at the

same time, people who have a less risky behaviour are less willing to pay higher premium policies and to stipulate an insurance contract. As a result, the insurance company mostly stipulates contracts with high-risk people: this is the effect of adverse selection.

Moral hazard can be defined as the tendency of the better-informed party to exploit the asymmetric information in a dishonest way. In particular, moral hazard is the risk that a party of the transaction entered the contract not in good faith and gave misleading information regarding the object of the transaction, his liabilities or credit capacity. Moreover, the better-informed party often is motivated to take unusual risks in order to earn profits before the contract is settled, and in doing so he negatively affects the other party. In this situation, decisions are not based on what is considered right but on what provides the highest level of profits: from this aspect derives the reference to morality. Getting back to the case of insurance contract, the transaction can also be affected by moral hazard. If people with high risk of getting sick do not mention such information during the stipulation of the contract, they get lower premium policies to pay. Moral hazard occurs because they are less motivated to take care of themselves due to the fact that if they get sick the insurance company will cover the expenses.

In the context of asymmetric information, important argumentations were brought by Akerlof. In particular, in his study about *The Market of "Lemons": Quality Uncertainty and the Market Mechanism* (1970), he argues that as a consequence of asymmetric information, the market of low-quality products, called "lemons", crowds out the one of high-quality products. To illustrate and develop his thoughts, Akerlof took the market of used cars as an example.

In the market of used cars sellers offer high-quality and low-quality cars. Potential buyers are not able to say whether or not a car is of good quality, before they have bought and driven it. Hence, sellers can decide to offer low-quality cars at higher prices to earn higher profits. At this point, sellers of high-quality cars are less effective in selling their products, because high-quality cars are valued as much as the low-quality cars, and sellers would not receive the expected value for their products either. The majority of traded cars would be "lemons", and high-quality cars may end up not be traded at all: the low-quality product tends to drive out the high-quality one (Akerlof, 1970).

The "Lemons Problem" is the starting point to explain how do the processes of adverse selection and moral hazard act. In fact, a consequence of the mechanism explained above is that sellers of high-quality cars exit the market and only "lemons" are offered. The market of high-quality cars may eventually collapse, and the market of low-quality cars, characterised by inefficient transactions (bad cars sold at the price of good cars), would increase: this is an effect of the

adverse selection. Moreover, the presence in the market of people willing to offer low-quality cars at the price of high-quality ones represents the major cost of dishonesty. In fact, dishonest dealings tend to drive honest dealings out of the market. Hence, legitimate business would be driven out of existence - and this is an effect of the moral hazard (Akerlof, 1970).

Even if it does not lead to a bad product driving a good product out of the market in all of the cases, asymmetric information is a market failure that drives the parties involved in the economic transaction to an inefficient and undesirable outcome. This is the reason why potential buyers are motivated to find as much information regarding a specific good or service as possible. By definition, the dispersion of knowledge creates asymmetric information. Hence, what buyers ask for is mechanisms to coordinate this dispersed knowledge and reduce time and costs when looking for information. Markets and institutions should incentivize entrepreneurs who develop those mechanisms and help reducing the problem of asymmetric information (Thierer, Koopman, Hobson, Kuiper, 2016).

The Sharing Economy, thanks to its high-performing and technologically-advanced online platforms, has developed and is still developing a series of mechanisms which help potential buyers finding as much information regarding a specific good or service as possible. In the next paragraph, I will analyse these mechanisms in detail.

2.2 Which tools does the Sharing Economy use to reduce asymmetric information?

The widespread presence of online sharing platforms is leading to a “private” market solution to the problem of asymmetric information, where “private” means that no intervention from public authorities is required. The information revolution, the development of online reputational and trust-building mechanisms, the lower search costs enabled by the interconnected world of the Internet, have motivated the new entrepreneurs in the scenario of the Sharing Economy to consider the asymmetric information not as a market failure, but rather as a market opportunity (Thierer, Koopman, Hobson, Kuiper, 2016).

In fact, as already explained in the first chapter, online sharing platforms are born with the purpose of facilitating everyday activities (such as finding an accommodation for the holidays, a pet-sitter for the dog, and many others). This is the reason why reducing search costs and optimising the use of information are among the main characteristics which online sharing platforms base their businesses on. Considering that reducing search costs and optimising the use of information can drive to a reduction of dispersed knowledge, it is possible to observe how

entrepreneurs operating in the scenario of the Sharing Economy exploit the asymmetric information, which characterised traditional markets, to establish their new businesses. That is to say, they see in this market failure a new market opportunity.

Before proceeding with the analysis of the reputational and feedback mechanisms created by online sharing platforms, it is important to underline that Sharing Economy's markets are different from those of used cars or insurance contracts. On online sharing platforms transactions happen with a high frequency and vendor and consumer can interact more than once in a short time. These characteristics of the markets can be considered as another reason why entrepreneurs operating in the scenario of Sharing Economy develop reputational and feedback mechanisms.

There are several mechanisms created by the online sharing platforms to facilitate the process of gaining information for their users. In the following section I will focus mainly on two of these mechanisms: reputational feedback and direct communication systems integrated in the platforms.

One of the first mechanisms developed to reduce the asymmetric information is the reputational feedback mechanism. In the form of product or service ratings, reviews and awards, this mechanism existed in the traditional "offline" market too. With the advent of the Internet, it was simply moved online, leveraging a wider audience and continuing to lower the transaction costs associated with acquiring pertinent information. (Thierer, Koopman, Hobson, Kuiper, 2016).

Nowadays, with the rise of the Sharing Economy, the technology for reputational feedback mechanisms has reached a new advanced level. In general, we can determine two different types of online reputational mechanisms: centralized or third-party mechanisms and peer-to-peer mechanisms.

Centralized or third-party mechanisms are built to reduce the asymmetric information between the users and the platform, and not necessarily between the two transacting parties. The aim of these mechanisms is to increase the level of knowledge and comfort in the transaction. In other words, the online sharing platforms act as third parties seeking to facilitate the connection between buyers and sellers and to add validity to the transaction. Examples of such mechanisms are guarantees and insurances provided by the platform to both parties of the transaction; vetting or scanning procedures to block questionable or untrustworthy users; investigations to ensure that only qualified users can offer certain services; payment clearing system; "Big Data" analytics. Guarantees and insurances lower the risk in the transaction for both parties, increase

the number of transactions made on the platform and enhance the platform's brand. For example, *Yescapa*, an online sharing platform to rent campers, offers different kinds of insurance to both camper owners and people who want to rent a camper. Vetting or scanning procedures can take several forms. *Lyft*, an online ride-sharing platform, performs both criminal and driving background checks for every driver, to guarantee the safety of its users. They also confirm if the driver has a valid driving license and a personal insurance that meets State requirements. Mechanisms to ensure that only qualified users can offer certain services are provided, for example, by *DogVacy* a platform that connects dog owners with dog lovers who are willing to take care of them. This platform uses a system where potential dog hosts must have their profile approved before being listed as dog-sitters. Moreover, dog-sitters can improve their ranking results (and have higher probabilities of being hired by dog owners) by attending training sessions, where they have to read some texts or watch videos and then take tests; all offered by the platform itself. Payment clearing systems are one of the oldest methods used to facilitate transactions. In this case, the sharing platform verifies the payment between sellers and buyers, so that neither party has to worry about fraudulent payments. Furthermore, on the online sharing platforms cash payments are not allowed: this reduces even more fraud risks. "Big Data" analytics is a relatively new mechanism typical of online centralized platforms. This mechanism uses computer algorithms to monitor transactions and either flag or block as suspicious some activities. Any suspicious activity report is sent to a human employee to further investigate. *Airbnb* uses this type of system to track almost every element of a transaction (listing, profile, reservation, payment). For example, if hosts and guests repeatedly book an accommodation with each other or if a new user books a very expensive room with a new host, the system automatically flags these transactions as suspicious and the security team of the platform starts investigating.

It is worth mentioning that the centralized mechanisms to reduce asymmetric information, as described above, work for two main reasons. The first is that a platform acting as a third-party is in fact a stakeholder in the transaction (and it gets a percentage on the value of the transaction too), therefore it has all the interests in avoiding any fraud and abuse. The second reason is that, in general, online sharing platform have better (financial) resources than private people, which means it is easier for online platforms to offer mechanisms to reduce asymmetric information (Thierer, Koopman, Hobson, Kuiper, 2016).

Peer-to-peer mechanisms are developed with the aim of reducing the asymmetric information between the two parties of the transaction directly. There are various peer-to-peer feedback mechanisms. One of the most popular is the ratings and reviews system. These systems allow

the users to review the service or product they have rented, bought or experienced through the platform, to review the other party of the exchange and the overall experience provided by the platform at the end of the exchange as well. One of the most relevant characteristics of these ratings systems is that both ratings are automatically published on the rated users' profiles. In this way, future potential buyers and sellers can find more information about the product or service and also about the other party of the exchange. The ratings and reviews systems vary from 5-stars or points ratings to detailed reviews. Getting back to the case of *Lyft*, the platform also uses a 5-stars ratings system that implies that a driver with an average rating below 4.6 is at risk of being deactivated from the platform. Another relevant procedure is the confirmation of a person's identity through the creation of individual profiles. Every information that can confirm the identity of the other party reduces the asymmetric information between the parties, therefore the transaction is more likely to happen. This explains why online sharing platforms usually allow users to sign up with Facebook or other social media profiles, as these are most likely linked to the real identities. Platforms can also verify the users' identities through their phone number, email or profile photo. *Airbnb*, for example, gives the host the possibility to ask their guests the "Verified ID Badge", which means that the guest has to upload on his profile the scan of his driving license or his passport.

Related to the topic of peer-to-peer feedback mechanisms, the research conducted by Ert, Fleischer and Magen (2016), on the role of personal photos in *Airbnb* is also interesting. Ert, Fleischer and Magen conducted two studies on how the choice of an accommodation on *Airbnb* relies on the visual-based trust, which means how the choice relies on the trustworthiness perceived by viewing the host's profile picture, rather than on host's reviews. In particular, Study 1 was designed to evaluate whether or not visual-based trust affects prices of *Airbnb* listings. The authors focused only on listings that were reviewed, since reviews are the only indication available that accommodations have been rented out. They recorded all the attribute variables of these listings, including price, number and average score of reviews, nature of accommodation, numbers of rooms, host's gender and profile pictures. In Study 2, instead, Ert, Fleischer and Magen tested the relationship between visual-based trust and the choice of listings under two different conditions. In the first experiment (Study 2.1), they held the reviews score at their highest level and similar to the one found in Study 1. In the second experiment (Study 2.2), they artificially varied the reviews scores in order to evaluate whether or not such variation would alter the effect of visual-based trust on the listing choice. Particularly interesting for my analysis are the results of the Study 1. "The results reveal a significant positive effect of the perceived trustworthiness of the host according to her photo on listing price. Specifically, an

increase in one unit of the visual-based trust score (scale of ten) leads to an increase of approximately seven percent in the price of the listing.” (Ert, Fleischer, Magen, pp. 15-17, 2015). In this case, it seems that the role of the profile picture is important not only because it reduces the asymmetric information between the two parties of the transaction, but also because it increases the value of the exchange.

As mentioned at the beginning of the paragraph, another important mechanism created by online sharing platforms to reduce asymmetric information is the direct communication system integrated in the platforms; that is to say, online chats where the two parties can have a direct exchange of information. *Airbnb*, for example, integrated a system of direct communication in its platform that allows guests and hosts to get in touch with each other even before the accommodation is booked. Even though direct communication systems seem to be part of the peer-to-peer mechanisms category, in my opinion they represent a good compromise between a centralized and a peer-to-peer mechanism. In fact, when a platform decides to integrate a system of direct communication, it achieves the objective of reducing asymmetric information in two perspectives. The first one is a peer-to-peer perspective: giving the two parties of the transaction the possibility of a direct communication, the platform allows the two parties to better align on the information they need for the exchange. The second is a third-party perspective: a platform that allows its users to have a direct communication between each other makes them feel secure about the validity of the transaction and satisfied with the overall service provided by the platform.

It is important to note that, just as different situations call for different mechanisms, so different online sharing transactions call for different reputational and feedback mechanisms. The nature of the exchange establishes which system is most suited. People may not need detailed information to hire someone to mow the lawn, but they would certainly seek out more information if they have to hire a baby-sitter for their children. Whether a platform uses a centralized or a peer-to-peer mechanism, what counts the most is that it is able to free its users from spending time and effort looking for specific information, thus reducing asymmetric information between the two parties of the transaction.

2.3 The improvement reached by the Sharing Economy: Users' Trust

After this short analysis of which tools the Sharing Economy offers to reduce the asymmetric information, one point still needs to be clarified. Are these tools really effective? Do they effectively reduce this market failure? To answer these questions, it is necessary to analyse the results reached by these mechanisms.

One of the most relevant results reached by the reputational and feedback mechanisms, developed by the online sharing platforms, is the users' trust. Centralized mechanisms increase trust between the users and the platform by making sure that the transaction happens in a secure and valid environment; while peer-to-peer mechanisms increase trust between the two transacting parties by allowing them to align on the information they need for the exchange.

Trust is particularly relevant in the case of the Sharing Economy because transactions mainly happen through strangers. Users of online sharing platforms usually do not know each other before they get in touch on the platform; nor they have the time to deepen their acquaintance before the transaction takes place. This is the reason why gaining users' trust through reputational and feedback mechanisms is fundamental for the transaction to happen. Therefore, the more an online sharing platform reduces the cost of the information research for its users, the more users trust the process and the other party. Hence, the number of transactions occurring on the platform increases and the value generated by the platform increases too. Moreover, the concept of "sharing" is strictly related to the concept of "trust". People do not share goods, assets or knowledge with each other if they do not trust the other party and the overall process. Hence, trust plays a crucial role in the Sharing Economy.

Particularly relevant for the online sharing platforms is the study of Lu, Zhao and Wang "*From virtual community members to C2C e-commerce buyers: Trust in virtual communities and its effect on consumers' purchase intention*" (2010). In their research, Lu Zhao and Wang differentiated between the constructs of trust in members and of trust in the website; then both constructs were separated into three dimensions: ability, integrity and benevolence. What they found is that community members' trustworthiness influences purchase intentions. As C2C e-commerce businesses can be approximately compared to online sharing platforms (in both cases there is an exchange between peers), it is possible to consider these results as valid for the Sharing Economy too. In particular, the distinction between trust in members and trust in the website can be compared to the distinction between peer-to-peer and third-party reputational mechanisms, which online sharing platforms use to reach users' trust. In fact, online sharing platforms, thanks to peer-to-peer mechanisms, make users trust each other (trust in members), and thanks to third-party mechanisms, they gain users' trust in the process (trust in the website).

In confirmation of this comparison, there is the study "*Trust in Sharing Economy*" of Hawlitschek, Teubner and Weinhardt (2016). Their objective was to describe how users' trust influences the transactions on online sharing platforms. In particular, Hawlitschek, Teubner and Weinhardt differentiated between two perspectives, the one of consumers and the one of suppliers and they also determined three different targets of trust, which they called 3P: trust

towards peers, towards products and towards platform. As Lu, Zhao and Wang did, Hawlitschek, Teubner and Weinhardt also represented the three different trust targets in the three dimensions of ability, integrity and benevolence. From a consumer's perspective, trust in peers describes whether or not the supplier is able to execute his part of the transaction and if he is considered a partner of integrity and benevolence. Trust in the platform is based on the beliefs about ability, integrity and benevolence of the website as a mediator in the transaction. Trust in the product describes how much a product (or service) is considered reliable for potential customers. Instead, from the supplier's perspective, trust in peers describes how much the supplier can rely on the customer regarding payments (ability of executing his part of the transaction), potential damages (integrity) and meeting supplier's interests (benevolence). Trust in the platform describes its ability, integrity and benevolence in providing a seamless communication and a smooth service. Here, trust in the product from the supplier's perspective is not considered as relevant, since the supplier is usually the owner of the product.

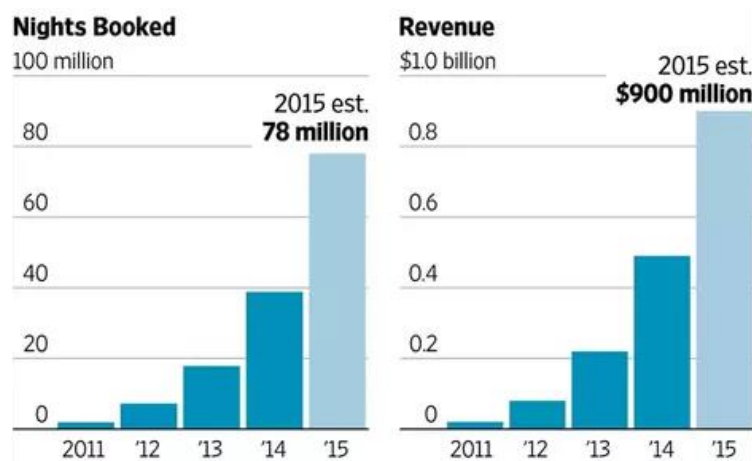
Hawlitschek, Teubner and Weinhardt conducted online surveys as method of research and, from the analysis of the data obtained through the surveys, they found that trust in peers, product and platform, from both supplier and consumer's perspective, positively affected the intentions to provide and consume respectively. Unlike traditional B2B e-commerce, online sharing platforms themselves need to appear trustworthy and they also have to manage users' perceptions of each other and of the object of the exchange, in order to generate (and increase) their businesses (Hawlitschek, Teubner, Weinhardt 2016).

The findings of both the studies mentioned in the previous paragraph are particularly important, because they confirm users' trust as one of the most relevant results reached by the Sharing Economy: without the users' trust, the Sharing Economy cannot generate business. Therefore, it is possible to consider user's trust as a valid tool to measure the effectiveness of reputational and feedback mechanisms implemented by online sharing platforms. In particular, a reputational mechanism capable of generating trust implies that the platform using that mechanism can reduce the asymmetric information within the transaction. Hence, it is possible to conclude that user's trust can indicate whether or not online sharing platforms can reduce asymmetric information.

A platform capable of obtaining users' trust generates more transactions and higher revenues. Therefore, the number of transactions can be considered as a relevant indicator of the trust and, consequently, of the reduced asymmetric information reached by the online sharing platforms.

As mentioned in the introduction, platforms like *Airbnb* and *Uber* have now become established businesses with high revenues and a strong brand identity. They both have integrated reputational and feedback mechanisms into their platforms. *Airbnb* implements both centralized and peer-to-peer mechanisms. Some of these procedures were already mentioned in the previous paragraph. In addition to the ones cited before, *Airbnb* offers other centralized mechanisms, such as a secure payment system on the platform, and other peer-to-peer mechanisms, such as the verification of the account every time the user logs into the profile from a different device, plus a direct communication system integrated in the website and in the app. The platform developed by Brian Chesky in 2008 has seen a huge increase in the number of bookings; in particular, Figure 2 shows the growth in terms of number of nights booked from 2011 (year in which Airbnb reached 1 million bookings) to 2015.

Figure 2: Nights Booked on *Airbnb*



(Source: Boston Hospitality Review, <http://www.bu.edu/bhr/2016/01/08/the-making-of-airbnb/>)

Uber offers both centralized and peer-to-peer reputational mechanisms too. Its 24/7 incident support and GPS tracking of all the rides are examples of centralized mechanisms; while the 2-way ratings system and the possibility for *Uber* users to share their trips with other users are examples of peer-to-peer mechanisms. The ride-sharing platform from San Francisco is registering an increasing number of rides; in particular, Figure 3 shows the number of gross bookings on *Uber* per quarter, from July 2016 to June 2018.

Figure 3: Uber's Global Quarterly Gross Bookings



(Source: Business Insider, <https://www.businessinsider.de/ubers-losses-grow-in-q3-but-bookings-rise-2017-12?r=US&IR=T>)

Uber and *Airbnb* are examples of successful online sharing platforms. Thanks to the strong brand identity they have reached in the sectors of transportation and accommodation respectively, it is safe to assume that their increasing number of transactions is now mostly due to their brand image, rather than to their ability to reduce asymmetric information. In the case of online sharing platforms with a strong brand identity, it is more difficult to find an immediate correlation between the number of transactions and the reduced asymmetric information. For established brands like *Airbnb* or *Uber*, one can safely assume that transactions are carried out because users are rather attracted to the brand image of the platform, than the platform's ability to reduce the disperse knowledge. Considering how relevant the brand image is in the number of transactions of an online sharing platform, I chose to develop the case study of *listnride*, a young but fast-growing start-up from Berlin operating in the market of bike-sharing. *listnride* was first launched in the market in October 2016. Considering its still recent launch, the brand image of this bike-sharing platform is not yet established in a way that can affect the number of transactions. This is the reason why I chose *listnride* to analyse if the Sharing Economy can actually provide a solution to the problem of asymmetric information.

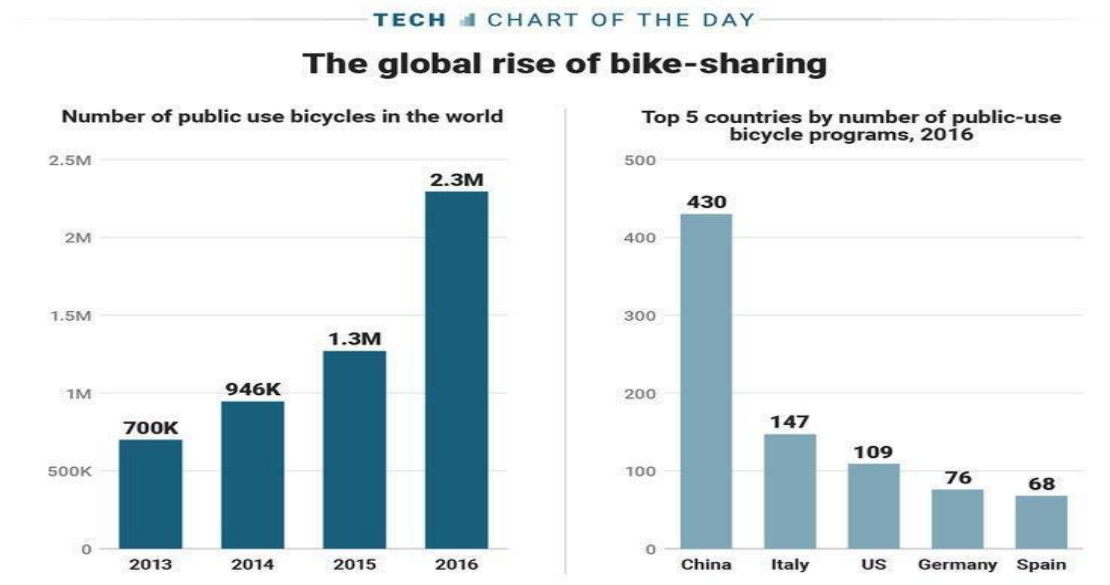
Chapter 3: The case study of *listnride*

3.1 An overview of the Bike-Sharing Market

Before proceeding with the case study of *listnride*, I will present a short overview of the bike-sharing market in order to better understand in which sector of the Sharing Economy *listnride* operates.

Until now, the businesses developed in the scenario of the Sharing Economy have been presented only as online businesses. But this is not always the case. Some sectors which provide everyday-life services have been affected by the rise of the Sharing Economy even though their businesses were not moved to high-end or sophisticated online platforms. In particular, the sector of public transportation has been further enhanced thanks to new managing systems. For example, in the case of the bike-sharing market, new sophisticated managing systems allow the use of shared bicycles within a pre-set area. Nowadays, in most of the largest metropolitan areas in Europe, North America and East Asia, people have the possibility to use shared bicycles to move around the city. They can pick up the bike from a specific station, usually called “docking station”, and return it on a different station. Bikes are locked at the docking stations and can be unlocked only with specific codes or cards. The bike-sharing systems offer to the citizens of a certain area a new, flexible and eco-sustainable mean of transportation. Thanks to their environmentally friendly characteristic, bike-sharing systems have been increasing their presence worldwide in the past years.

Figure 4: The Global Rise of Bike-Sharing



(Source: Business Insider, <https://www.businessinsider.de/the-bike-sharing-market-is-growing-charts-2018-4?r=UK&IR=T>)

As shown in Figure 4, the sector of public transportation has been largely affected by the rise of the Sharing Economy. The number of shared bicycles has almost doubled from 2013 to 2015.

Important environmental factors contributed to the growth of the bike-sharing systems. The air pollution is one of the most relevant factors. As a consequence of the increase of air pollution, countries started to develop initiatives to reduce the car use in the cities and incentive people to use public transport. It is not by chance that China, the third country most affected by air pollution, was the first country by number of public-use bike-sharing systems in 2016. As a matter of fact, cities which adopted urban mobility policies to promote cycling, and limit car use, represent the main scenario for the development of bike-sharing systems.

A bike-sharing system is characterised by four main elements: bicycles, docking stations, IT system and depots. First, bicycles are the most important part of a bike-sharing system. They must be versatile and provide flexibility along with the ease of use. Shared bicycles should be designed in order to be used by people of different ages, gender, size and economic class. Moreover, the bike design should have an identity that represents the bike-sharing system and makes the bike recognisable for the citizens or tourists who want to use the service. Then, docking stations have to be located in strategic areas of the city, in order to meet the transportation needs of the citizens. They usually have an open structure so that they can be moved from a location to another in case needed. Docking stations are provided with docks, a shelter and a terminal where people can pay for the bike-sharing service. The IT system is

required to manage the GPS or RFID trackers installed on the bicycles and to manage the transactions occurring on the terminals as well. It is also needed as a control and fare-management system and to administer the website of the bike-sharing service, its mobile App and the SMS-based information network. Finally, depots are spots where bicycles are kept while they are not in service. They are provided with all the equipment to manage, repair and clean the bikes.

There is a variety of business models that can be adopted to implement a bike-sharing system in a metropolitan area. The main difference between each business model lies on the provider of the service. The provider can be an advertising company, a local authority or a public transport operator. In the first case, the advertising company provides the bikes and manages the sharing system in exchange for advertising rights. For example, the bike-sharing system in Paris, *Velib*, is provided by *Smovengo*, an international private firm which offers urban mobility solutions. In the second case, local authorities design, own and operate a system by themselves or contract providers to install and operate a system for free. The first option was adopted by the Municipality of Aarhus (Denmark), which provides its own bike-sharing system called *Aarhus Bicykel*. In the third case, the public transport operator provides a bike-sharing system to enhance its services. This is the case of *Call a bike*, a bike-sharing system offered by *Deutsche Bahn* all over Germany. Another important difference between different bike-sharing systems is that some of them are for-profit businesses, some others are non-profit businesses. In the former case, the provider offers the system for profit and with minimal involvement of local authorities; in the latter case, the provider offers the system for free with the support of local authorities.

After this short presentation of the main characteristics of a bike-sharing system, it is interesting to analyse which are the strengths and weaknesses of the bike-sharing market. Shared bicycles are an environmentally friendly mean of transport offered at a low price, suitable for people of different ages and flexible to different uses. At the same time, shared bicycles can be easily damaged or stolen and docking stations have to be located in very strategic points, in order to offer an effective bike-sharing network in a city. Moreover, offering a bike-sharing service at a low price requires high investments from the provider's side. Considering these strengths and weaknesses, the bike-sharing market is facing great opportunities, such as the possibility of reducing the CO₂ emission in cities while providing an eco-sustainable mean of transport; but at the same time, this market has to overcome some threats, such as the difficulty of motivating people to use bicycles instead of cars. In fact, as the case of *Uber* (paragraph 2.3) shows, also the car-sharing is a growing market in the scenario of the Sharing Economy.

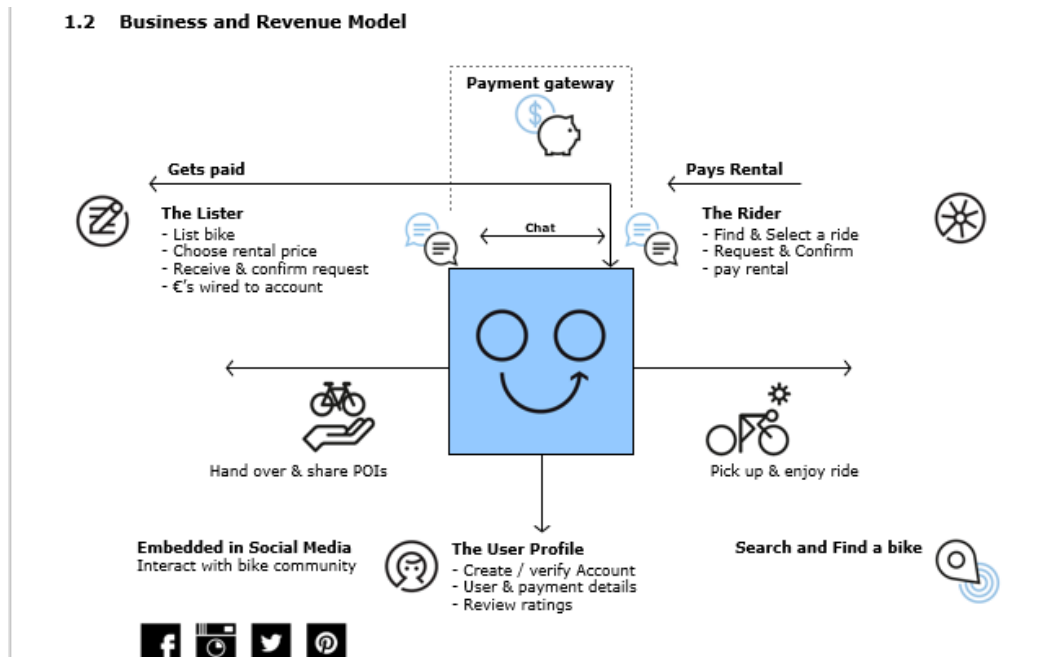
This overview of the bike-sharing market will be helpful for the analysis of the case study of *listnride* in the following paragraphs.

3.2 *listnride*: the “Airbnb for bicycles”

listnride is a young bike-sharing company from Berlin, that operates in the market of bike-sharing with a business model which is different from the ones presented in the previous paragraph. As the company itself defines its business, *listnride* is the “Airbnb for bicycles”. This definition reflects the first purpose with which *listnride* was created: give to private people the possibility to share their bicycles with others through an online platform, as *Airbnb* does with the accommodation.

listnride co-founders Johannes Stuhler and Gert-Jan Van Wijk wanted to create an online community of bike-lovers, where people could share their bikes and their love for cycling with others. They also wanted to make bikes available everywhere at any time. Johannes and Gert-Jan first met in 2012 during their master studies in Mannheim and immediately discovered that both had a great passion for cycling. After their studies, they focused on the idea of creating an online bike-sharing community. In October 2016, *listnride* was first launched in the market. Initially, the platform was conceived for private people only. As the name suggests, on *listnride* people can list and rent bikes. People who register on *listnride* to list one or more of their bikes are called *listers*. They simply have to add a short description, a couple of nice pictures and the location of their bikes, and set the rental price. After this short process their bikes are available to be rented on the platform. People who register on *listnride* to rent a bike are called *riders*. *Riders* can look for a bike through the search per location and search results will show all the bikes available in that location. Results can also be filtered per bike category, brand, timespan or size. Once people find a bike that fits their needs, they can request that bike. The booking process ends only when the *lister* accepts the request from the *rider*. At this point, the bike is booked and both parties receive a confirmation email. One important aspect is that, as for other online sharing platforms, also on *listnride* users do not have to register as *listers* or *riders* only. They can be both at different times. Figure 5 shows in detail how *listnride* structured its business and revenues model.

Figure 5: Business and Revenue Model of *listnride*



(Source: on concession of *listnride*)

From October 2016 until now, *listnride* has broadened its service. In particular, it started offering its service to other two operators in the market of bike rental: bike shops and bike brands. In fact, from October 2017 *listnride* offers also to bike shops the possibility to list their bikes on the platform. The listing process is the same as the one seen for private people. Moreover, from January 2018 *listnride* collaborates with bike brands to offer a test-ride service. This service is meant to give to potential customers the possibility to test the bike before buying it. A lot of brands, especially e-bikes producers, sell their expensive products online and this makes it harder for customers to decide on the purchase. For this reason, *listnride* decided to offer bike brands the possibility to list some of their bikes on the platform. For each brand there is a dedicated page on the *listnride* website, where people can find relevant information on the bikes and the location where they are available for a test ride. The booking process for test-ride bikes is the same.

As mentioned above, the business model of *listnride* is different from the typical bike-sharing system and more similar to the business model of *Airbnb*. The two platforms are similar not only in the way they offer their service, but also in the way they generate their revenues, because *listnride* too charges a service fee to both parties of the transaction.

Offering a bike-sharing service only through an online platform has clear advantages. The first is that offering a bike-sharing service online gives to the provider the possibility to reach out to a greater number of people. The typical bike-sharing services can only be used by the citizens

or tourists of a specific city or area; whereas *listnride* instead can potentially offer its service worldwide. As for now, this young bike-sharing service is present in Germany, Austria, Switzerland, Netherlands, Italy, Spain, Portugal, UK and South Africa and the platform is available in five languages (German, English, Dutch, Italian and Spanish); but *listnride* is growing faster and reaching new locations every day. The second advantage of offering the bike-sharing service only online is that an online bike-sharing service does not have to supply the bikes directly and it does not have to manage the placement of docking stations in strategic points. *listnride* offers to the *listers* the possibility of making their bikes available for rent and to the *riders* the possibility to find a rental bike, but the supply and availability of bikes does not depend on *listnride* itself. This way, *listnride* can also offer a wider variety of bikes for rental. In fact, on the platform not only classic city bikes are available for rent, but one can find road and gravel bikes, MTBs, e-bikes, cargo bike and folding bikes too. A third advantage of offering the bike-sharing service only online is the reduced risk of damages and thefts. With typical bike-sharing services people often do not have to identify through a registration process and the IT system does not keep track of all the rides. These characteristics make it easier to damage or steal bikes without the risk of being caught. On *listnride*, people have to register in order to list or rent a bike, making it easier to keep track of the rented bikes, to identify who rented them and to reduce the risk of damages and thefts.

From the analysis above, it emerges that *listnride* developed a new business model for the bike-sharing market and it has also improved the way the bike-sharing service is provided. Bringing online a service traditionally provided offline and reducing some of its weaknesses is not sufficient to reach the conclusion that an online sharing platform has reduced the asymmetric information between vendors and consumers. For this reason, it is necessary to analyse which tools *listnride* uses to reduce the dispersed knowledge and to verify if these tools are effective.

3.3 How *listnride* increases Users' Trust

As many other online sharing platforms, *listnride* bases its business on reducing the search costs for its users and optimising the use of information. The bike-sharing company helps *riders* to find a rental bike that fits their needs, and *listers* to find a person willing to rent their bikes. In short, *listnride* helps the two parties finding the best match for the transaction. To do so, it implements various reputational and feedback mechanisms which help both *rider* and *lister* in gaining more information about the other party and the transaction itself. The analysis of the reputational and feedback mechanisms implemented by *listnride* and their effectiveness will

outline if this bike-sharing company can reduce the asymmetric information between vendors and consumers.

listnride uses third-party and peer-to-peer mechanisms in order to facilitate the process of gaining information for its users. The third-party mechanisms implemented on the platform are: the verification of the payment method, the acceptance of *listnride* Terms and Conditions and the insurance. The verification of the payment method protects the users against fraud. *listnride* checks through an automatic process that every user provides a valid payment method: if the payment data provided is not valid or there is not enough credit available, the booking system does not allow the *lister* to accept the request and book the bike. As a consequence, the transaction does not happen in such cases. Moreover, offline or cash payments are not allowed on *listnride*. The acceptance of *listnride* Terms and Conditions is a required step for the users in order to register on the platform. Users must be aware of the fact that, when they reach a rental agreement on the platform, this has to be in line with *listnride* statements. Terms and Conditions are available for free download on the platform. Since July 2018, *listnride* also offers an insurance cover for all the rentals in Germany and Austria. During the request process a basic insurance is added per default to the rental price. With the basic insurance *riders* are protected against unintentional or third-party damages, vandalism and damages to the electronics in case of e-bikes rentals. *Riders* also have the possibility to choose a premium insurance which protects them in case of thefts, includes a return transport or bike replacement and a 24/7 emergency service in case of damages or thefts. *Listers*, on their side, have to estimate the value of their bikes when they list them. This information establishes the value of the basic insurance for each bike. The insurance cover is valid for the rental period only and both parties receive the insurance contract in the booking-confirmation email. The insurance *listnride* offers protects both parties of the transaction and makes them feel more secure when they agree on a rental, which is a great tool to gain users' trust.

The peer-to-peer mechanisms implemented by *listnride* are: the verification of the profile, the possibility to register and log in with a Facebook profile and the ratings system. The verification of the profile consists on proving that a user's email address or phone number are actually existing. To verify their email address or phone number, users have to enter a specific code received by email or SMS notification during the registration process. This procedure helps the platform to guarantee to both parties of the transaction that they are dealing with a real person. Moreover, on *listnride* it is not possible to register more than once using the same email address or phone number. If this happens, after the registration it is not possible to proceed with listing or requesting a bike. Registering and logging in with their Facebook profile is another tool that

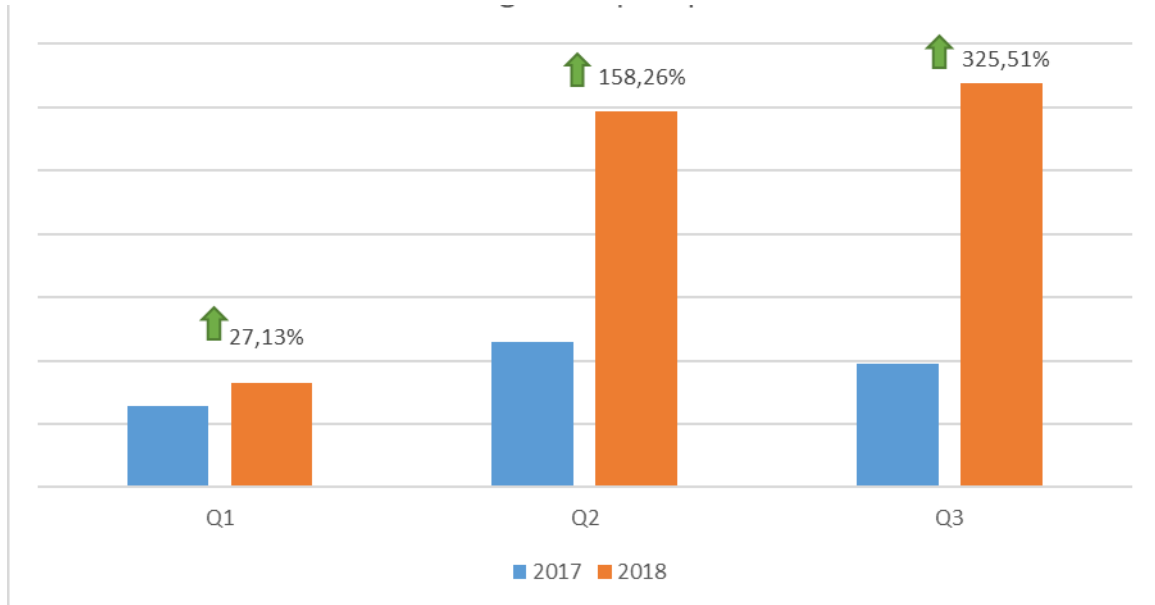
makes the users rely on the fact that they are dealing with real persons, since Facebook profiles are usually connected to real identities. It is worth mentioning at this point that *listnride* asks its users to upload a profile picture too, in order to make their profiles more reliable and increase their possibility of renting a bike or renting out their bikes. As for now, uploading a profile picture is not a required step in the registration process on *listnride*, hence it cannot be considered as a peer-to-peer reputational mechanism. The rating system, instead, is fully integrated on the platform and *listnride* considers it as one of the most important procedures to help the two parties to learn a little more about each other before proceeding with the rental agreement. After every rental, the *lister* is asked to confirm the return of the bike in order to conclude the process and receive the payout. To complete the confirmation process, the *lister* has to rate the *rider* through both a 5-stars rating system and a detailed review. Once the *lister* has confirmed the return of the bike, the *rider* is asked to rate the *lister* with the same systems. Both *rider* and *lister* receive reminders about rating the other party. The most important characteristic of this rating system is that both ratings are published on the users' profiles. This way other users can find more information regarding a specific *lister* or *rider*.

There is another important tool worth mentioning, before concluding the analysis of the reputational and feedback mechanisms implemented by *listnride*: the online chat. *listnride* gives its users the possibility to have a direct communication even before the bike is booked. When *riders* request a bike, the platform automatically opens an online chat with the *lister* where *riders* can ask for more information regarding the bike and discuss pick-up and return arrangements. At this stage of the booking process the bike is not booked yet. If the *riders* are not satisfied with the information received from the *lister*, they are still on time to cancel their request without costs. The integrated online chat is a fundamental tool in order to reduce the *riders*' lack of knowledge on the object of the exchange and to make them trust the booking process.

To complete the analysis of the reputational and feedback procedures mentioned above, it is necessary to verify their effectiveness. As explained in the previous chapter, the number of transactions is a relevant indicator of the effectiveness of third-party and peer-to-peer mechanisms, implemented by online sharing platforms, in order to reduce the asymmetric information between vendors and consumers. In particular, an increase in the number of transactions suggests a positive effect of the reputational and feedback procedures on reducing the asymmetric information.

Figure 6 shows the quarterly percentage of growth in the number of transactions on *listnride* from 2017 to 2018. Since details for 2018 are not available yet, the last quarter of the year (Q4) is not considered in this graphic.

Figure 6: Quarterly Rentals' Growth on *listnride*



(Source: on concession of *listnride*)

The number of quarterly transactions on *listnride* highly increased from 2017 to 2018. This growth can be partly due to the rise of the bike-sharing sector pointed out in Figure 4. But *listnride*'s service has two unique characteristics which makes it stand out on the scenario of bike-sharing. The first characteristic is the great variety of bikes offered on the platform, especially of road and gravel bikes, e-bikes and cargo bikes which are usually difficult to find for rent online at competitive prices. The second characteristic is the test-ride program, something completely new in the scenario of bike-sharing and not offered from any other online bike-rental service before. The uniqueness of the service offered by *listnride* suggests that the success of its business is rather due to the effectiveness of its reputational and feedback mechanisms than to the general rise of the bike-sharing sector. Hence, it is possible to affirm that *listnride* effectively reduces the asymmetric information between vendors and consumers.

Considering the young age of the platform, *listnride* can still improve its reputational and feedback procedures in order to achieve better results. In particular, two of the procedures mentioned above can be better implemented on the platform. The insurance could be extended to all the rentals booked on the platform, and not only to the ones that take place in Germany and Austria. *listnride* is already working on this; but considering the different countries where *listnride* service is offered and the different regulations which characterise the different countries, this is not an easy process. The ratings system, instead, can be improved in a way

that makes this process shorter, because now, especially for the *listers*, the rating process requires quite a long time. Considering that *listnride* has started offering the possibility of listing bikes also to professional *listers* (such as bike shops and bike brands), it would be a good idea to change the current rating methods. A possibility could be removing the detailed reviews and change the 5-stars rating into a system where users have to give a 5-stars rating to different categories, such as the bike the other party the booking process and the overall experience. Moreover, as it is now for *listers*, the rating process can be integrated as a required step also for the *riders* in order to finalise the rental. This way both parties have to rate the other, and the probability of having users without ratings on the platform gets down.

Even if *listnride* can still improve its reputational and feedback mechanisms, what counts the most is that it seems clear that these procedures are already effectively reducing the asymmetric information between *listers* and *riders*.

Conclusions

Nowadays the Sharing Economy has become a global phenomenon, affecting everyday new economic sector. The main reason of its success lies on the fact that the Sharing Economy offers simple and cheap solutions to everyday situations. The evidence of this can be found on the number of online sharing platforms' users which is constantly growing.

Considering that the main scenario of this new economic model is online, sharing platforms need to generate trust between users in order to establish a successful business. Generating trust means reducing the asymmetric information between the two parties of a transaction, usually vendor and consumer. Online sharing platforms develop reputational and feedback mechanisms to reduce the asymmetric information between users (peer-to-peer mechanisms) and between users and the platform (third party mechanisms). A valid measure of the effectiveness of these procedures is the number of transactions occurred on the platform. A growth on the number of transactions suggests that the platform is successfully reducing the asymmetric information.

As the case study of *listnride* shows, online sharing platforms can effectively reduce the asymmetric information between vendors and consumers. Thanks to the implementation of reputational and feedback mechanisms, these platforms increase the trust between the two parties of the transaction and the trust of the users on the platform itself. Reaching users' trust can thus be considered as a required step in order to effectively reduce the asymmetric information.

Online sharing platforms should value the implementation of reputational and feedback mechanisms as a fundamental feature in order to reduce the asymmetric information between vendors and consumers, and thus generate revenues. In the online world, trust is necessary to make the transaction happen. As a matter of fact, online sharing platform that effectively deploy reputational and feedback procedures increase the number of transactions and thus their revenues. After these considerations, it is possible to say that online sharing platforms not only can but also have to reduce the information failure in order to generate a strong business and establish their presence on the market.

References

- Akerlof, 1970. *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*. The Quarterly Journal of Economics, Vol. 84, No. 3.
- Bachand-Marleau, Lee, and El-Geneidy, 2010. *Better Understanding of Factors Influencing Likelihood of Using Shared Bicycle Systems and Frequency of Use*. Journal of the Transportation Research Board, No. 2314.
- Belk, 2013. *You are what you can access: Sharing and collaborative consumption online*. Journal of Business Research 67 1595–1600
- Brinkley, September 2017. *The Sharing Economy*. The European Financial Review.
- Choudhary, Dogne, Bhardwaj, 2015. *Infrastructural Needs and Swot Analysis of Public Bicycle Sharing System as Energy Free Transportation in India*. Journal of Civil and Construction Engineering, Vol. 1 No. 3.
- Cohen and Kietzmann, 2014. *Ride On! Mobility Business Models for the Sharing Economy*. Organization & Environment, Vol. 27(3) 279 –296
- Cohen & Sundararajantt, 2017. *Self-Regulation and Innovation in the Peer-to-Peer Sharing Economy*. University of Chicago Law Review Online, Vol. 82, Iss. 1, Art. 8
- Davidson, Nestor and Infranca, 2016. *The Sharing Economy as an Urban Phenomenon*. Yale Law & Policy Review: Vol. 34: Iss. 2, (pp. 216-279) Available at: <http://digitalcommons.law.yale.edu/ylpr/vol34/iss2/1>
- DeMaio, 2009. *Bike-sharing: History, Impacts, Models of Provision, and Future*. Journal of Public Transportation, Vol. 12, No. 4. (pp. 41-52)
- Ert, Fleischer and Magen, 2016. *Trust and Reputation in the Sharing Economy: The Role of Personal Photos in Airbnb*. Elsevier, Tourism Management Vol. 55. Available at: <https://www.sciencedirect.com/science/article/pii/S0261517716300127>
- European Commission, Institute for Prospective Technological Studies Digital Economy Working Paper 2016/01. *Scoping the Sharing Economy: Origins, Definitions, Impact and Regulatory Issues*
- European Commission, *Single Market Scoreboard Performance per Policy Area, Collaborative Economy*, reporting period 2013-2017 (July 2018). Available at: http://ec.europa.eu/internal_market/scoreboard/performance_per_policy_area/collaborative-economy/index_en.htm
- Fraiberger and Sundararajan, 2015. *Peer-to-Peer Rental Markets in the Sharing Economy*. NYU Stern School of Business Research Paper. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2574337

- Hamari, Sjöklint, Ukkonen, 2015. *The Sharing Economy: Why People Participate in Collaborative Consumption*. Journal of the Association for the Information Science and Technology.
- Hawlitschek, Teubner and Weinhardt, 2016. *Trust in the Sharing Economy*. Swiss Journal of Business Research and Practice 70(1), pp. 26-44. Available at: <http://dx.doi.org/10.5771/0042-059X-2016-1-26>.
- Hawlitschek, Teubner and Gimpel, 2016. *Understanding the Sharing Economy-- Drivers and Impediments for Participation in Peer-to-Peer Rental*. 49th Hawaii International Conference on System Sciences (HICSS) (pp. 4782-4791). IEEE
- Heinrichs, Harald, 2013. *Sharing Economy: A Potential New Pathway to Sustainability*. Gaia,22(4),228-231. Available at: [http://fox.leuphana.de/portal/en/publications/sharing-economy\(f53ffbc2-f9bb-4915-a308-e5cceb5ac963\).html](http://fox.leuphana.de/portal/en/publications/sharing-economy(f53ffbc2-f9bb-4915-a308-e5cceb5ac963).html)
- Kantar TNS, November 2015. *Sharing Economy in Italia*. Available at: <https://www.tns-global.it/news-center/news/sharing-economy-italia>
- Kantar TNS, *Study on Sharing Economy in Italy*, 2015. Available at: <https://www.tns-global.it/news-center/news/sharing-economy-italia>
- Kaplan, Manca, Nielsen, Prato, 2014. *Intentions to use bike-sharing for holiday cycling: an application of the Theory of Planned Behavior*. Department of Transport, Technical University of Denmark. Available at: www.trafikdage.dk/artikelarkiv
- Katz, 2015. *Regulating the Sharing Economy*. Berkeley Tech. L.J. Vol. 30, No. 18. Available at: <http://scholarship.law.berkeley.edu/btlj/vol30/iss4/18>
- Koopman, Mitchell and Thierer, 2015. *The Sharing Economy and Consumer Protection Regulation: The Case for Policy Change*. J. Bus. Entrepreneurship & L. Vol. 8. Available at: <http://digitalcommons.pepperdine.edu/jbel/vol8/iss2/4>
- Koopman, Mitchell and Thierer, 2015. *The Sharing Economy: Issues facing Platforms, Participants and Regulators*. Mercatus Center or George Mason University, Sharing Economy Workshop, Project No. P15-1200.
- Maggioni, 2017. *La Sharing Economy: Chi guadagna e chi perde*. Il Mulino, Bologna, (pp. 7-43)
- Martin, 2015. *The sharing economy: A pathway to sustainability or a nightmarish form of neoliberal capitalism?* Elsevier, Ecological Economics 121 149–159. Available at: www.elsevier.com/locate/ecocon
- Midgley, 2009. *The Role of Smart Bike-sharing Systems in Urban Mobility*. Journeys.
- Pagliaro. *Come Airbnb punta ad essere tra 10 anni? 10 volte più grande (e con un miliardo di ospiti)*. La Stampa Economia.

- Parlangei, July 2017. *Uber raggiunge i 5 miliardi di corse: in Italia ha 83mila utenti unici*. Wired.it <https://www.wired.it/mobile/app/2017/07/04/uber-5-miliardi-corse/>
- Ranchordas, 2016. *Does Sharing Mean Caring? Regulating Innovation in the Sharing Economy*. The Minnesota Journal of Law, Science & Technology, Vol. 16, No. 9
- Schor and Fitzmaurice, 2014. *Collaborating and Connecting: The emergence of the sharing economy*. Research on Sustainable Consumption, eds., Lucia Reisch and John Thøgersen, (Cheltenham, UK: Edward Elgar).
- Schor, 2014. “*Debating the Sharing Economy*,” Great Transition Initiative. Available at: <http://greattransition.org/publication/debating-the-sharing-economy>
- Thierer, Koopman, Hobson, Kuiper, 2016. *How the Internet, the Sharing Economy, and Reputational Feedback Mechanisms Solve the “Lemons Problem”*. University of Miami Law School Institutional Repository 830. Available at: <http://repository.law.miami.edu/umlr/vol70/iss3/6>
- Tremolada, February 2014. *Cinque anni di Uber in Italia. Le Tappe*. Il Sole 24ore.
- United Nations Department of Economic and Social Affairs, Commission on Sustainable Development CSD19/2011/BP8, *Bicycle-Sharing Schemes: Enhancing Sustainable Mobility in Urban Areas*.
- Wikipedia, July 2018 https://en.wikipedia.org/wiki/Sharing_economy
- Zervas, Proserpio, Byers, 2014. *The Rise of the Sharing Economy: Estimating the Impact of Airbnb on the Hotel Industry*. Boston University School of Management Research Paper Series, No. 16.
- Zorloni, Mai 2017. *Airbnb: 4 miliardi di giro d'affari in Italia. Ma è scontro sui numeri*. Wired.it. https://www.wired.it/economia/business/2017/05/22/airbnb-affitti-italia-cedolare-secca/?refresh_ce

Websites

- <http://www.businessofapps.com/data/uber-statistics/>
- <https://ipropertymanagement.com/airbnb-statistics/>
- www.airbnb.com
- www.listnride.com
- <https://blog.blablacar.com/about-us>
- <https://www.uber.com/en/de/>