

CNMC's COMMENTS ON FTC PUBLIC CALL ON SHARING ECONOMY

The CNMC on new models for service delivery and on sharing economy

The National Commission for Markets and Competition (CNMC) launched in November 2014 a public consultation on the new models for service delivery and the “sharing economy”¹. The consultation took place in two stages and ended in January 2015:

- The first stage assessed the theoretical bases underlying traditional regulation of two of the industries where “sharing consumption” is having a large impact: passenger road transport (bus and taxi) and tourist accommodation (document 1)
- The second stage focused on the effects on these markets of the new models for service delivery and the need and proportionality (in the sense of minimum competition distortion) of current regulation, given the new market conditions (documents 2 and 3).

After the public consultation, the CNMC is currently conducting a study on new models for service delivery and sharing economy from the viewpoint of competition and efficient economic regulation. The ultimate purpose of the study is to issue a series of recommendations from the independent standpoint of the Competition Authority, aimed at ensuring efficient regulation of the affected markets, with a view to guaranteeing effective competition between traditional and new entrants in the markets, for the benefit of consumers.

The study will provide an overview of the state of development of the “sharing economy” in Spain. It will focus in two specific industries in particular, passenger road transport and tourist accommodation, where new models for service delivery

¹ <http://cnmc.es/en-gb/promotion/sectoralreportsandstudies/studyonthesharingeconomy.aspx>

have already irrupted in the markets. These new services, at the same time, are demanded by consumers, attacked by the incumbents and have posed significant challenges for the Regulator.

Economics of the sharing economy

The developments of information technologies, mobile devices and new platforms and applications, in sum, the digitization of the economy, have led to new patterns of consumption and new business models in recent years. A good example is the development of e-commerce (books, music, traveling, clothing, etc.), which has become commonplace in the daily life of millions of free consumers in just a few years.

This technological breakthrough is having a major impact on the so-called sharing economy (part of which is the “sharing consumption”). This is based on the exchange of idle or underused goods or services, such as empty seats in a car on a trip, apartments or rooms that are empty during holidays, domestic tools used just once or twice, spared time of skilled professionals etc., in exchange of compensation agreed between the parties. The reduction of household income and of credit available to consumers as a result of the economic crisis, together with the cultural change consisting in that “use” is preferred to “property”, are also key elements in understanding the success of this model in recent years.

In parallel to the sharing economy phenomenon, technological development has facilitated the emergence of new platforms that use the advantages of the Internet (search engines, aggregators, comparators, scale economies, network economies, etc.) to offer more attractive services to consumers in innovation, prices and variety.

There is no doubt that the increase in the supply and variety of products and services is a game changing opportunity that, from the point of view of competition, enhances consumer welfare and business opportunities. Moreover, the new models provide consumers with more information about products and services, reduce transaction costs and have a lower environmental impact. However, at the same time some questions arise concerning how to adapt the existing regulation to the new scenario characterized by a series of disruptive innovations, given the effects of the new models on markets.

But the analysis of the **advantages and disadvantages of sharing platforms for consumers and suppliers** requires greater depth.

What we call sharing economy nowadays is an umbrella concept that encompasses several ICT² developments and technologies, which endorse sharing consumption of goods and services through peer-to-peer platforms. The eruption of these sharing platforms has dramatically shifted consumption patterns in a very short time. In many cases, these phenomena have taken place traditionally in society from ancient times, but the use of information and communication technologies has brought a quantitative change with disruptive characteristics in diverse markets that enables talk of a new phenomenon and even of a new Fourth Sector, beyond traditional services. These changes in consumer behavior could reflect both a trend on (i) increasing concerns about ecological and social issues, (ii) emerging cultural values of convenience, empowerment, freedom and flexibility associated with the concept of access, rather than ownership, (iii) economic gains based on variety, innovation, lower prices, quality, etc.

Access to services and products is what drives consumers at present, and the best way for enterprises and other consumers to offer access to a wide number of consumers worldwide is via online sharing platforms.

Despite its growing worldwide importance, there is still a lack of quantitative studies and empiric analysis regarding the motivation behind consumers' behavior and the advantages linked to these platforms. Nevertheless, a number of factors could be underlined that could explain **consumers'** willingness to participate in collaborative consumption and are linked to the new consumer trends mentioned above.

The main (preliminary) identified advantages are the following:

Access vs ownership

² Information and communications technology.

One of the main advantages (and motivation) of collaborative consumption is the possibility to have access to goods, services and information that consumers could not have otherwise. In other words, instead of buying and owning things, sharing platforms allow most consumers to access goods and enjoy the temporary experience of accessing them. In this regard, sharing platforms are seen as lifestyle or marketplace facilitators by consumers, since they do enable them to participate in lifestyle spaces that they could not access before and on a much lower price.

However, it could be questioned whether these new platforms are fuelling the change in consumption patterns, or whether they are addressing consumers' needs that were previously unattended and, therefore, creating demand that did not exist before (therefore palliating a market failure of incomplete markets). If the latter were the case, sharing platforms would not directly compete with traditional business (they would complement them).

Economic gains

Another key factor in joining these multi-sided platforms is the economic gain brought about to their users/consumers/firms. Participating in sharing economy can respond to a rational behavior by which consumers maximize their utility in terms of saving money and time. The consumer-platform relationship in this context is governed by utilitarianism or economic gain.

Through this type of new online platforms, consumers are able to reduce expenses, such as searching costs, information asymmetries, transactional overhead and/or charged prices, and increasing convenience, in the sense of having access to a broader and deeper offer of goods and services in a shorter time horizon.

More on economic gains both by consumers and suppliers will be examine below.

Sustainability

Ecological sustainability concerns and communal values are new social trends that have emerged and developed during the last years. Consumers are more sensitive to these concerns and might prefer businesses that internalize such worries in their activities. This suggests that sustainability might be an important factor to join sharing platforms where idle resources are used and accessed, and where information and common knowledge is shared. The question here is whether this attitude towards sustainability and social values would prevail over, for instance, economic gains. Currently, there is no sufficient evidence in this regard to conclude on this matter, but sustainability and social values should certainly be analyzed when assessing the benefits brought by sharing peer-to-peer platforms to consumers.

Self-fulfillment

Enjoyment and/or self-fulfillment are also one of the advantages driving consumers to join sharing platforms. This advantage is intimately linked to the concept of 'access' goods and services that were not accessible before. These new platforms allow consumers to enjoy a broader range of products (they enhance diversity) that target their individualize preferences. Sharing platforms, thus, facilitate consumers' enjoyment in a way that traditional businesses were not able to do, either due to their excessive prices, their reduced offer of products or their lower than desired quality.

From the **supply side**, the main and most important advantage of these platforms is the opportunity for suppliers/users to offer idle resources and, therefore, increase overall efficiency and productivity. Thanks to sharing platforms, broad segments of the population can collaboratively make use of under-utilized resources and goods via free or fee-based sharing. Individuals can now share a ride, provide short-term rentals of vehicles they own that would otherwise be sitting idle, they can rent out spare rooms in their apartment or home, take another person's dog for a walk, or even offer their culinary skills to other peers online. As a result, sharing through peer-to-peer networks serves the economic incentive of better using resources (or saving them), and creates a new offer of goods, services, knowledge and even jobs that did

not exist before. Last, but not least, reputation is also regarded as an important factor to join the platforms as a supplier as it enables people to experience relatedness and feeling of competence. In fact, there are papers which conclude that building reputation is one of the strongest indicators to collaborate online.

As the CNMC has previously stated in the public consultation, some of the main effects of the new service delivery models on their respective markets are the following:

- It gives more information on the asset or service available for consumers, which allows easy comparison between products and helps to make better consumption decisions. The marker and reputation mechanisms existing in diverse platforms constitute a novel instrument to enhance consumer information. By the use of these mechanisms consumers can appraise the services received, thereby reducing the problem of asymmetric information that future users of the same service may face.
- A reduction of intermediaries between the suppliers and consumers and, therefore, lower transaction costs and an increase in the general competitiveness of the product.
- Pro-competitive effects generated by the increase in the quantity and variety of supply, compelling traditional suppliers to adjust their margins and prices and to invest in innovation in order to differentiate and ameliorate their products and services.
- Greater variety of supply for consumers, with the removal of some traditional geographic limitations and fostering customized services, thereby providing consumers with greater choice to come to their optimum decision.

- Transfer of demand from traditional sectors to the new models, albeit at the same time as the creation of new demand due to greater variety in the supply, which generates a positive aggregated effect on GDP and employment.
- Improvement of the efficiency and competitiveness of the economy, by facilitating greater average use of existing resources.
- The use of resources that were going to remain unused, which leads to a greater economic efficiency and to possible positive environmental externalities, or a reduction of the negative ones.

Despite of the number of advantages listed above, sharing platforms could also have disadvantages both for suppliers and consumers. A detailed analysis on this matter would require further investigation and time. Nevertheless, the CNMC is in a position to underline 3 factors that could be considered as disadvantages or risks linked to sharing platforms.

The most important risk from a competition policy point of view is the creation of uncontestable market power. Additionally, the CNMC has identified two issues that could be problematic for the markets in the long run: (i) surveillance and customer data, (ii) reputation bias.

Market power

Detractors of sharing platforms argue that the sharing economy presents a societal risk under certain scenarios, especially when network effects exist and are hardly replicable. Network effects could lead to the creation of unrivaled dominant players or monopolies which could force competitors, both traditional and competing sharing platforms, to leave the market, and significantly increase prices.

This is the main competitive reason why detractors of this new type of business believe that sharing platforms should be properly regulated in order to (i) add value

to the social welfare, and (ii) eliminate (or reduce) the risks of conducting anti-competitive practices by dominant players.

This issue will be further discussed in the next section (see below). However, this risk should not discourage the development of this phenomenon. As it will be discussed below, regulation should not be an impediment for the progress of the market and it should not be used by addressing other problems than market failures, which should be solved with different tools.

Surveillance and customer data

Surveillance and access to customer data is seen by users of sharing platforms as necessary for providing the service, and regulating negative reciprocity and asymmetric information. While a degree of market control by the platform is seen as a necessary tool for ensuring the security of the interactions between consumers in the platform, an enormous amount of personal data needs to be used and manipulated by the platform in order to ensure such quality and security standards. This information could be used by the platform to increase the price it charges to a particular consumer, a group of consumers or a potential competitor, for a given product or service³.

Reputation bias

Reputation systems and mechanisms could also be regarded as a disadvantage by some consumers (and not only an advantage).

In general, reputation systems increase transparency in the markets via giving information and feedback on the different users and their services provided. Yet, a

³ For instance, if the platform detects through your searching data that your dates and/or your destination are not flexible. In addition, in the medium/long run, the platform could have obtained sufficient information from its customers' base to be able to perfectly price discriminate and charge the maximum price each consumer is willing to pay for a given service. Under this scenario, market price would be well above the competitive market price.

reputation system could also be biased in many forms, especially if the reputation system is managed and created by the same platform.

Reputation bias will be more deeply described below.

Apart from the abovementioned advantages and disadvantages for consumers and suppliers, sharing platforms add value by facilitating interactions between customers who are partly attracted by the existence of network externalities. **Network externalities are, therefore, a key aspect of sharing platforms.**

Direct network externalities exist if participation becomes more attractive to each individual the more other individuals participate in the platform. Similarly, *indirect network effects* or *inter-group network externalities* arise through improved opportunities to trade or interact with the other side of the market. Network effects are, thus, intrinsically linked to most of the existing multi-sided sharing platforms. Moreover, the platform plays a key role in creating these network effects.

The main challenge for newly created platforms is to get sufficient agents/consumers on each side to secure enough critical mass to boost network effects. In this sense, the existence of network effects can limit supply-side substitutability and increase entry barriers for multi-sided platforms. While successful incumbent platforms have obtained a critical mass of users on their several sides and benefit from the positive interaction effects between these customer groups, entrants need to obtain that critical mass in order to be able to effectively compete.

To obtain this critical mass could be difficult. Due to the existence of network effects, an increased participation on one side of the platform makes it more attractive to the other side, leading to increased participation there, making participation by the first side more attractive, and so on. This virtuous circle that helps the first entrant could hinder or even incapacitate a new entrant to break that inertia. Network effects could favor the platform that is already established on the market, sometimes regardless of the quality of its services.

Notwithstanding this, a number of features missing from traditional models could help explaining why market power does not always occur in multi-sided sharing platform.

First, competing platforms could offer differentiated products or services in closely related or apparently new markets, so there is place in the markets for a number of different platforms. In such a case, firms select product attributes to attract particular groups of consumers and to differentiate themselves from competitors. Network effects would not lead to a monopoly in the overall market, but dominant players could still arise in a given segment of the market. In other words, while differentiation could prevent platforms to become dominant in the overall market, it does not prevent the creation of dominant players in the different segments of the market. What differentiation changes, then, is the size of the monopolist or the dominant player.

Second, in some platforms consumers can *patronize* more than the leading platform. This phenomenon is called “multi-homing”. Multi-homing has the potential to counteract the tendency toward the lock-in effects in industries with network effects. When multi-homing exists along with low entry costs, as is frequently the case in the digital economy, the incumbent platform might have problems to exert its market power and the benefits of competition can be fully ripened.

For instance, during the start-up period new platforms could offer subsidized services until they have built up a critical mass of consumers. Such strategy could undermine the traditional consensus that network effects could be a source of market power that could exclude rivals by locking-in consumers to an inferior technology or service. Why? Because the combination of low switching costs for consumers (“multi-homing”) and low costs to creating new digital platforms might mitigate traditional concerns about lock-in. Yet, this is not always the case. Sometimes, network effects may lead to entrenched market positions. As a result, a case-by-case analysis should be conducted in order to determine which effect prevails.

As a general rule, network effects might not confer sufficient market power to incumbents if the owner of a new, more efficient and/or innovative platform has both the ability and the incentive to enter the market and replace the incumbent. There are many factors that need to be closely analyzed in this respect, such as the need of the new entrant to subsidize consumers during its start-up period (and the ability to recover them after reaching critical mass), or the possibility of consumers to coordinate switching to the newly created platform. Consumers' coordination is of utmost importance, since it mitigates the market power conferred by network effects. That could be the reason why many multi-sided sharing platforms take coordination in their own-hands, rather than leaving consumers to coordinate themselves. By coordinating consumers, sharing platforms reduce the possibility of a concerted action and, as a result, increase consumers' switching costs (and entry barriers).

Finally, and as a competition authority, anti-competitive conducts by platform incumbents should not be disregarded in this type of markets. (Furthermore, on the positive side, evidence of misconducts could be easier to obtain and assess).

Platform incumbents might have the ability and the incentives to deter new entrants via exclusionary practices. An incumbent could use exclusive contracts to deter entry by a more efficient entrant in a market characterized by network effects. Under such exclusive contracts consumers could join only one single platform, with no possibility of multi-homing, i.e. buying from the entrant. Another similar strategy would be to develop exclusive content in the platform. Under this scheme, the platform would offer a number of services to the consumers without exclusivity arrangements, and other (valuable) services would be provided on an exclusivity basis. In both cases the main objective is to deter entry. Under exclusive contracts the incumbent would block consumer switching or the possibility to multi-home. With exclusive content the consumer would be free to multi-home, but the new incumbent would not have access to the exclusive content offered by the incumbent (which is highly valued by its potential customers. Consequently, it might have problems to attract new customers to its new platform).

To conclude, and for antitrust purposes, what it would be crucial in the presence of network effects is to accurately assess the benefits brought by those network effects to consumers, as opposed to the harm that could be caused by excessive market power enhanced by the existence of too difficult to replicate network effects (if any).

It is also of interest to examine ***the economic considerations of sharing platforms as opposed to traditional models and one-sided online sales platforms***. The Multi-sided sharing platforms have two or more groups of customers who need each other in some way but who cannot fully capture the value from their mutual interaction on their own; to that end, customers rely on a catalyst (*‘the platform’*) to facilitate value creating interactions. Traditional one-sided businesses could not benefit from this value added interactions as they merely offer goods and services to customers who then pay a price for these goods and services. Customers were not expected or even allowed to create any value (or the value created was negligible). Moreover, even if traditional one-sided businesses would identify such opportunities to increase their value via customers’ interaction, they could not solve the existing problem of coordination by themselves, as they did not have appropriate tools to do so.

New ICT developments allowed new types of market places to emerge where value could be created by consumers via shared knowledge and resources. The value of the sharing platforms, thus, derives from solving a coordination—and transaction cost—problem between the different groups of customers and their individual knowledge and resources.

Similarly, the most obvious **difference between sharing platforms and other type of one-sided online platforms** is the collaborative activity between users online, or peer-to-peer collaboration. One-sided online sale platforms have in common, with

sharing platforms, their use of online services and the possibility to reach a wider demand. But this demand side does not add much value to the platform via common interaction. They only add value in isolation, that is: the more subscribers or buyers they have, the more profitable would be the online sales platform, the more profitable the platform is, the better content or product could afford and offer.

The value of sharing platforms, on the contrary, mainly rests on peer-to-peer interaction and user contributions to assist activities in the buying and selling of products and services online. Network effects are amplified under this paradigm.

Peer-to-peer interactions have their downsides too, as opposed to more traditional online platforms. They do have weaknesses that an online sales platform does not have. First, they should rely on all sides of the market (i.e. a sharing platform cannot afford growing on only one group of customers, as all groups need to interact in order to increase the platform's value). Second, peer coordination is complex as customers are not necessarily similar, neither their contributions to the platform or their individual interests when joining the platform. Third, network effects could play a double role, i.e. they could be strength or a weakness, depending on the market features.

Reputation System and Other Trust Mechanisms

The underlying economic problem that has given raised to reputational systems is asymmetric information between both sides of a transaction. Usually, consumers do not have as much information as providers of goods and services and, traditionally this problem has resulted in different mechanisms, such as regulation, self-regulation, certifications or guarantees to give signals to consumers about the characteristics of the product and services.

The sharing economy is resulting in greater trust among people that do not know each other, causing behaviors that would have seemed impossible only some years ago. A private market solution of this traditional market failure has presented itself in the form of an information revolution, online reputational and trust building mechanism and lower search costs of an interconnected community.

The peer-to-peer mechanisms of building online trust and reputation in the sharing economy are very similar to those used in the physical world. They are centered on establishing an identity and increasing communication and trust between humans.

Reputational systems make online commerce safer and more secure. Various sharing economy transactions call for different levels of reputations systems (for example, mow the lawn vs. babysitting for their children). The nature of these exchanges dictates the reputational system that individuals rely on to acquire the necessary information and close the transaction.

A growing reliance on online reputational systems may bring into question many of the current regulations as well as the idea that asymmetric information requires extensive government intervention in certain aspects of the economy. New technologies have reduced the informational gap between both sides of the transactions and they raise the possibility of less regulation (or even no regulation in some markets if the market failure can be effectively canceled).

The **effectiveness of reputation systems** depends on the motivations of those giving testimonies as well as on the actions of the trustee. Reputation is effective only if the testimonies are independent and free from collusion or retaliation.

Given that reputation systems used in commercial and online applications have some vulnerabilities, it is accepted that the reliability of these systems sometimes is questionable. Assuming that reputation systems could give unreliable scores, a possible reason why they are still used is that in many situations the reputation systems do not need to be robust because their value lies, at least partially, elsewhere. Resnick & Zeckhauser (2002)⁴ consider two explanations in relation to eBay's reputation system: (a) Even though a reputation system is not robust it might serve its purpose of providing an incentive for good behavior if the participants think it works, and (b) even though the system might not work well in the statistical normative sense, it may function successfully if it swiftly reacts against bad behavior (called "stoning") and if it imposes costs for a participant to get established (called "label initiation dues").

The vast majority of feedback mechanism work well enough and worst-case scenarios are very rare. These trust mechanisms can also provide virtuous circles in the long run, when the number of testimonies grows larger or the consumer can check other testimonies of the evaluators. The fact that the sharing economy has evolved to the point it has today, with millions of parties transacting daily⁵, bolsters this conclusion. Therefore, it could be concluded that, even if reputation systems still have a big potential of improvement, they already provide enough trust between individuals that do not know physically each other to foster the sharing economy.

⁴ ["The Value of Reputation on eBay: a Controlled Experiment" P. Resnick R. Zeckhauser.](#)

⁵ [Globally, revenues from just the main 5 sharing economy sectors could hit \\$335 billion by 2025, up from just \\$15 billion today.](#)

Reputation is only one mechanism for solving the problem of trust, which has experienced a great evolution over the past years thanks to new technologies and the so-called *end of anonymity* in internet and social networks.

However, there are **other traditional mechanisms** that still help reducing the problem of asymmetric information and **encourage consumers and suppliers to transact on sharing economy platforms, protecting participants, and promoting informed choices**. These include reciprocity in long-term relationships, regulations (for example, food safety inspection), professional qualifications (such as doctors, lawyers...), voluntary industry certifications (such as trade label on the package), independent rating agencies, individual firm commitments, just to name a few.

Nowadays, internet platforms can provide additional trust mechanisms instead or in combination with peer-to-peer reputation systems⁶: with a centralized platform connecting buyers and sellers, the platform can offer the guarantee, thus lowering the potential risk and fostering transactions. Centralized platforms also use vetting and screening mechanisms to block questionable users, which increases its credibility. There are also mechanisms to ensure that only “qualified” providers can participate in certain services. Finally, centralized platforms acting as a payment clearing systems are one of the oldest mechanisms used to facilitate transactions; by verifying the payment neither party has to worry about things like fraudulent checks.

While the above mentioned mechanisms do not directly increase the trust between the transaction parties (buyer and seller), the final result is almost the same: transactions that would not otherwise occur due to lack of information and trust are facilitated this way.

⁶ [“How the Internet, the Sharing Economy and Reputational Feedback Mechanisms Solve the Lemons Problem” A. Thierer, C.Koopman.](#)

Strong reputational systems enhance trust and confidence and, therefore, increase the possibility of making a transaction. However, poorly designed or non-credible systems could prevent parties from being part of the market. That is why **one of the main problems of reputational systems is bias**: reviews are provided only by one subset of consumers who may not be representative of the larger group of potential consumers. These systems appear to be inherently biased towards better-than-average ratings. This effect could be explained as a consequence of **self-selection**, where reviewers are drawn disproportionately from the subset of potential consumers favorably predisposed toward the resource. Inflated ratings tend to attract consumers with lower expected value, who have a greater chance of disappointment. Paradoxically, the more accurate the ratings, the greater the degree of self-selection, and the faster the ratings become biased.⁷ Some examples of the self-selection bias: the average user rating on Netflix is 3.6 out of 5.0⁸ and on Amazon.com it is 3.9 out of 5.0⁹.

Along with manipulation control, creating a fair and unbiased rating system remains an open problem. Alternative designs that are more resistant to self-selection bias are of interest. Personalization is a well-known approach (for example, correlating preference to reviewer age). Another approach for eliminating or reducing bias involves dividing the reviewers into different subgroups according to their prior expectations, stating expectations before interaction with the resource, and expressing subsequent ratings in terms of delight or disappointment.¹⁰

Fear of **retaliation** is also another important problem for the reputational systems. For example, in two sides reputational systems, a less-than-five star review, unlike in the case of offline community-based testimonials, it is visible to the reviewee, who could have incentives to give a harsh review in return and, therefore, affect your own reputation and the chance of getting future clients based on biased comments.

⁷ [“Self Selection Bias in Reputation Systems”. M. Kramer.](#)

⁸ www.netflixprize.com

⁹ [“Self Selection and Information Role of Online Product Reviews”. Li, Xinxin and Hitt](#)

¹⁰ [“Self Selection Bias in Reputation Systems”. M. Kramer.](#)

However, there are some platforms that have already solved this problem of incentives. Both sides have a deadline to make the review and during that period, none of the parties have access to the review. Therefore, incentives to “give back” are eliminated, at least in the one-off transactions, and systems become more reliable¹¹.

On the other hand, it is not always a problem based on retaliation. In fact, there is a probability that participants could behave in a coordinated manner, this behavior could be seen as a “tacit collusion”: as long as both sides give five stars (which is usually, the highest score), they are both better off. However, this behavior will have a damaging effect on consumers, as they will not have truthful information, but biased information based on particular interests of the participants.

As mentioned before, collusion and retaliation could be reduced, or even eliminated, by avoiding each part to see the other part’s review until all of them have completed their comments, and assuring that none of them is able to change the review once opinions are public.

As reputation becomes an important asset, markets will rely to a greater extent on these mechanisms and some new agents could show up claiming to help boosting reputation. However, these market-based incentives could end up undermining, or even destroying the value of reputation as a mechanism for building up trust. Manipulation mechanisms for buying and selling testimonies (or making fake reviews), for example, cause testimonies to lose their ability to discriminate between trustworthiness and opportunism.¹²

¹¹ [“Engineering Trust: Reciprocity in the Production of Reputation Information” Gary Bolton, Ben Greiner, Axel Ockenfels](#). A clear example of the retaliation problem can be found in the eBay platform reputational system. The fact that from 742,829 eBay users who received at least one feedback, 67% have a percentage positive of 100%, and 80.5% have a percentage positive of greater than 99%, provides suggestive support for the bias. This fact is in line with the estimation that buyers are at least mildly dissatisfied in about 21% of all eBay transactions, far higher than the levels suggested by the reported feedback. The explanation to this difference is that many buyers do not submit feedback at all because of the potential risk of retaliation.

¹² There are many manipulation techniques used against reputation systems. Some others are: self-promoting, self-serving, slandering, orchestrated, denial of service. For a more detailed approach

The following two design criteria can influence the manipulation resistance of a reputation system¹³:

- **Identity** of feedback sources: The degree to which the true identity of the sources of feedback is known to the system and/or the community is a key variable. Full anonymity and easy creation of virtual identities make it easy for certain users to flood a reputation system with fake ratings. Mapping virtual identities to real identities (e.g., by asking for credit card numbers during registration) could help keeping such behavior. At the same time, however, monitoring identities could have drawbacks of its own. First of all, it might discourage some users from joining the system, as they don't want to have that kind of control. Secondly, it might discourage users from posting anything but positive feedback, increasing reporting bias and reducing the usefulness and credibility of the system. Sometimes an intermediate solution is praised, whereby a reviewer's identity is fully known to the system but not disclosed to other members.
- Transparency of **aggregation rules**: Concealing the details of the algorithms used to aggregate feedback is another way of resisting possible manipulation and gaming. Some platforms have gone down that path by not disclosing the precise formula they use to rank- order reviewers, or by not disclosing all the details of rank- ordering search results. Lack of transparency, however, has a downside, as it could lessen a site's credibility and the users' trust in the reputation system's fairness.

But, even if fast innovation is at work in this area, the market does not have yet a 100% manipulation- resistant reputation system. It could be that no matter what mechanisms are put in place, creative and determined users were bound to find a way around them. For that reason, community administrators have the need to

about these techniques and a comparison between reputation systems, see: ["A Survey of attacks on Reputation Systems" Hoffman, Zage, Nita-Rotaru.](#)

¹³ ["Online Reputation Systems: How to Design One That Does What You Need" Dellarocas.](#)

organically evolve their designs in order to constantly improve these reputation mechanisms.¹⁴

Even if reputation systems could be prone to manipulation or other kind of problems they are becoming more and more popular in all kind of platforms and they have become an essential tool to reduce the asymmetric information of the participants in many markets.

One key issue in online reputation systems is the fragility of **identity**. Any information that confirms a person's identity and reduce anonymity strengthens the trust and reputational ties between parties. That is why many sharing platforms prefer people to sign up using their Facebook account, as it is linked to their real identity. Using the identity of a social network is a first step to keep a single reputation background on the internet transactions. **The use of a third-party platform that keeps the record of all the ratings generated in the platforms by a certain user could generate additional trust for new comers and help the development of new platforms.**

However, users may value a certain degree of anonymity, especially the so called **digital immigrants**, whose trust in new technologies is, at least, not unconditional. The benefits of a single and unknown identity and the ability to use ratings generated on one platform on another platform have to be weighed against the cons of decreased anonymity.¹⁵¹⁶

On the other hand, the preservation of identity from one platform to another prevents from the practice of "whitewashing"¹⁷ (a user may acquire a new pseudonym and start over with a clear reputation, which will not be linked to the history of actions

¹⁴ For example, Airbnb currently has a team of approximately 80 people, with backgrounds such as former government investigators and criminal prosecutors, who are constantly reviewing suspicious activity and finding new ways to combat fraud and abuse. ["How Airbnb and Lyft Finally Got Americans to Trust Each Other" Tanz.](#)

¹⁵ An evaluation of the benefits of identity on internet platforms can be found at ["Identity Changes and the Efficiency of Reputation Systems" M.Wibral.](#)

¹⁶ ["Building Trust and Addressing Privacy Issues in the Sharing Economy"](#) analyses the relationship between privacy and trust in the sharing economy.

¹⁷ ["Manipulation-Resistant Reputation Systems". Friedman and Resnick.](#)

taken under the previous pseudonym). Reputation creates an incentive for future good behavior, but only if a pseudonym with no history is forced to “pay its dues” in some way while it builds up a history of good actions.

A reputation system can be an important source of user loyalty and a powerful mechanism for user retention. Thus the platform has all the incentives to promote surveillance (see the example of Airbnb, above mentioned) and other mechanisms that generate trust in their clients (guarantees, etc.). It is, therefore, in their own benefit to have a **strong and sound reputational system that would probably attract and retain a greater number of users to the platform and it would increase its value.**

Large platforms undertake such initiatives even though no law or regulation demands them, because they have the scale and economic incentives to build this infrastructure. The platform is a stakeholder in the transaction (because it usually receives a percentage of the transaction) and therefore has aligned interests to avoid fraud and combat abuse.

The rich literature growing around trust and reputation systems (the documents cited in this answer are a good example of the existing literature) for Internet transactions, as well as the implementation of reputation systems in successful commercial application, give a strong indication that this is becoming a vital issue.

The theoretical results they provide on what can and cannot be accomplished by reputation systems, as well as probably secure system designs, are certainly useful. Several directions¹⁸ have been explored, however much research remains to be done dealing with best practices, manipulation resistant design and identity vs. anonymity.

¹⁸ A very complete (though a bit old) review of the existing academic literature about reputation systems and open research questions can be found at [“An Introduction to the Literature on Online Reputation Systems for the MMAPPS project” J. Howison. \(2003\).](#)

Regulation, Consumer Protection and Competition Policy Issues

In a competitive market characterized by open entry and exit, firms are constantly competing to earn increased profits in one of two ways. First, they can find innovative ways to minimize their costs, passing on some of the savings to customers. As firms operate more efficiently, others will seek to innovate and economize as well, and those that fail to do so will eventually be driven out of the industry. Second, firms can compete by differentiating their products from those of their competitors. This “dynamic competition” encourages **innovation** by pulling firms to discover new ways of doing business and new ways of increasing the value for their customers.

In some cases regulation can undermine competition, resulting in excessive prices, fewer choices, lower quality service, or some combination thereof. In particular, if firms are insulated from competition from new or potential entrants, they can obtain some measure of monopoly or pricing power. The net effect of regulations that limit entry and homogenize price and quality is to insulate incumbent firms from dynamic competition that would benefit consumers. This lack of competition diminishes consumer welfare while increasing the share of the producer on the social surplus, with undefined effects on the level of the producer’s profit.

The arrival of new sharing economy platforms, as *mavericks*, is creating disruptive effects in many of these markets that were traditionally barred to competition or inefficiently regulated, bringing new welfare enhancing changes that were unforeseen by the market incumbents. The new entrants are fostering **competition and efficiency**. In this sense, these new platforms and their users could be considered harbingers of new technologies to inefficiently regulated markets that have been languishing without much innovation for decades. Lack of competition and inefficiency means unhappy consumers and, therefore, business opportunities serving them. In this sense, the new players seem to prioritize entry on inefficient sectors, where potential profits could be more easily obtained by offering new services, more variety, and lower prices.

While some traditional operators have fought sharing start-ups, others have chosen to get in on the game themselves by betting big on innovation¹⁹, or advocating for better regulation to provide the incumbents the instruments to compete more efficiently with the new entrants.

But products and services offered by the sharing economy are not just substitute products of those provided by traditional players. The Internet and information technology give the public access to a broader and more personalized range of goods and services. They are also offering wider choice, and choice is always good news for consumers. In this sense, along with a substitution effect, the new economy is also creating new offer and new demand that otherwise would not take place.²⁰

The ease of entry and innovation in the online world mean that new entrants can provide more options at less cost (search costs, transaction costs) and address problems that had been subject to. Polls have revealed that consumers currently take advantage of sharing economy services primarily because they offer greater convenience, better prices, and higher quality.²¹

On the other hand, internet and information technology offer consumers more information about products and services and empower consumers to come together and take advantage of that information, of that shared knowledge.

Estimations for sharing economy show that this new economic phenomenon is here not only to stay but to become an important part of the markets in the future,

¹⁹ In 2013 [Avis paid half a billion dollars for the car-sharing service Zipcar](#), and Hertz has started a similar service. [Mytaxi](#) or [Hailo](#) are technological transport platforms created for taxi drivers that introduce some innovations unseen in this industry for decades. Spanish company [Bemate](#) is another example of integration of the hotel industry to the new economy by combining rental apartments with hotel services.

²⁰ A [study of the Spanish association for vocation rentals](#) reveals that 32% of the tourists using this kind of accommodation would not have travelled if they had not been able to stay in a rental house.

²¹ "[The Sharing Economy. Consumer Intelligence Series](#)" by PwC shows that among US adults familiar with the sharing economy: 86% agree that sharing economy makes life more affordable and 83% agree that makes it more efficient and convenient.

representing a vector for competition and innovation in the economy, especially in some traditionally over-regulated sectors.

As the CNMC has previously stated in its public consultation, **public intervention in the economy through regulation finds its justification in the search for economic efficiency, and it only makes sense when a market is unable to achieve an efficient allocation of resources by itself.** A market's incapability to achieve an efficient equilibrium can be attributed, in a simplified way, to phenomena known as "market failures", which can be grouped in four categories: those phenomena originated by non-competitive market structures, those due to external effects that are not reflected in market prices, those given by information problems, and those related to incomplete markets.

Non-competitive market structures like, in some occasions, oligopolistic markets or, in extreme cases, monopolies, lead to inefficiencies in the allocation of resources given the market power on the supply side of the market in detriment to the demand. In general, in absence of entry barriers or anticompetitive behavior, free entry into the market puts a limit to the exercise of such market power. This is why competition authorities prosecute anticompetitive conduct and promote the elimination of unnecessary entry barriers.

However, in certain circumstances, depending on the size of the markets and in the presence of increasing economies of scale, a situation of natural monopoly can be reached where the existence of more than one operator on the supply side of the market is simply not economically efficient and where new entry would entail losses for all participants in the market. That is the case of, for example, transport and distribution of electricity with current technology and demand in Spain, or of the management of common transport infrastructure, like railways or highways (in absence of alternative ways). Redundant networks in these cases, with foreseeable demand, would not be profitable due to their high fixed costs, and would imply a waste of resources and a reduction of economic gain for both consumers and

producers. Natural monopolies need to be regulated in such a way that resources are allocated efficiently between consumers and producers, and access to essential facilities is permitted to all competitors under fair conditions.

The second group of sources of market inefficiencies is externalities, which imply that not all effects of production and consumption are included in market prices. In these cases, certain costs or economic benefits of transactions are not internalized and so are not incorporated in freely negotiated prices. Therefore, these freely negotiated prices do not reflect the social value of goods or services. Externalities can be positive or negative. When the externality is in the form of a benefit that is not incorporated in the price then it is positive, as in the case of an investment in a touristic site that has a positive effect in the turnover of other businesses in the same area. Another typical example of positive externalities is provided by private R&D, which has a clear public benefit. In absence of protection through an optimal patent system the socially efficient level of private R&D would not be realized. In sum, positive externalities may need positive incentives to be achieved, be it through a contribution by indirect beneficiaries in the case of investment in touristic sites, or through protective regulation in the R&D case.

A negative externality, on the contrary, represents a cost to third parties that is not included in the price. The clearest example is the emission of pollution into the environment as a result of a specific activity. These situations need correction through taxes or other means of control, in order to avoid pollution levels higher than socially desirable.

The third group of market failure is information problems. In a perfectly functioning market both consumers and producers have complete information on all variables relevant for decision making. However, reality shows that in many cases one party does not have all the information that the other party has and these information asymmetries give place to inefficiencies in the functionality of the market. A clear example is provided by the second-hand vehicle market, where the seller has far

more information on the real state of the vehicles than the buyer, which the seller has incentives not to share. As a result, the price that the buyer would be willing to pay is distorted. The lack of information on one side of the market may reduce or even eliminate transactions, even in cases where the cost of the goods or services is below the price that consumers would actually be willing to pay.

Efficient regulation can reduce the problems linked to the lack of information in the market through, e.g. product quality or safety requirements. So, regulations on professional degrees, quality standards or safety certification, for example, provide buyers with information about the good or service they are interested in acquiring, so they can make more efficient decisions.

Moreover, under these circumstances regulation can be of great help to reduce transaction costs. Regulation on the necessary conditions of an economic exchange avoids the large cost for both sides to *ex novo* negotiate all the terms and conditions of each exchange.

The fourth group of market failure is incomplete markets, which refers to the situation when private markets fail to provide a good or service even though the cost of providing it is less than what individuals are willing to pay and perfect risk transfer is not possible. Some authors have explained the existence of incomplete markets based on several factor: i) innovation; ii) transaction costs; and iii) asymmetries of information and enforcement costs²². Traditionally, governments, through regulation, have tried to overcome this market failure by providing the goods and services and/or establishing a public price.

²² “*Economics of the Public Sector*” Joseph E. Stiglitz, Jay K. Rosengard, when referred to capital and insurance markets: *It is costly to run markets, to enforce contracts and to introduce new insurance policies. An insurance firm may be reluctant to go to the trouble of designing a new insurance policy if it is unsure whether anyone will buy the policy. There is no effective “patent protection” and as a result, there will be underinvestment in innovation.*

In relation with the need to regulate, account has to be made that many forms of market failure, and specially information problems, can be solved or diminished through market mechanisms (without regulation), such as repeated sales, information sharing between consumers, guarantees and quality certification, or an adequate advertising on goods and services. The efficacy and availability of such non-regulatory mechanisms is larger in the present time thanks to communication and information technologies, and in particular the Internet, which have become available to consumers and producers.

For a piece of **regulation** to be considered sound it must fulfill two prerequisites. Firstly, it has to be **necessary**, in the sense that it is causally needed to palliate a market failure. Secondly, it must be **proportionate**, in the sense that it has to be the most appropriate tool to achieve the objective of the regulation. This happens when there are no alternatives to reach the same goal in a less restrictive or distortionary manner for competition.

In the cost-benefit analysis of a new piece of regulation, it is important to include not only the cost of producing it but also, and especially, the cost that less-competitive market structures created as a result of the regulation can entail. Another aspect to bear in mind is that efficient regulation is only possible when the regulator has good quality information about the market. Otherwise, producers will probably receive information rents.

Thus, the decision to regulate requires a deep analysis of the market failure that it intends to solve, as well as the analysis of the insufficiencies of regulation itself. Regulation has to be necessary and proportionate so as not to incur any kind of over-regulation that may accentuate the targeted problems or create unnecessary entry or exit barriers.

While many regulations are initially justified with the hope that they will serve the public interest, the reality is that many persist even when they no longer correct any

identifiable market failure.²³ (Or perhaps never did and were ill justified or a rent-seeking regulation advocated by incumbents). Due to factors like regulator capture and others, regulations often become formidable barriers to competition, new innovation, entry, exit and entrepreneurship.

One of the main contributions of the sharing economy is that it is able to overcome some market imperfections without recourse to traditional forms of regulation. By expanding the range of options and information available to consumers, the sharing economy removes the need for regulation in some cases. This is why the continued application of some outmoded regulatory regimes without much thought about whether they are still necessary to protect consumer welfare is likely to harm consumers and sectors alike.

The way to assure the regulation goals while also allowing the competition and innovation fostered by the new economic models is to assure that regulation is always based in an answer to specific and well identified market failures. As market circumstances change dramatically—for example when new technology or competition alleviates the need for regulation, with innovations likely doing a much better job of serving consumer welfare²⁴—then public policy should quickly evolve and adapt to accommodate the new reality.

Competitive firms are almost always quicker than regulators to point out the substandard service of their rivals. The result is reasonably well-functioning, self-regulating markets with strong checks on improper behavior. Sometimes the best regulatory answer could simply be no interference with bad regulation.

²³ For example, at the beginning of the 20th century many local governments began regulating the taxicab industry in an attempt to protect consumers from potential harms caused by market failures in the form of “information asymmetries.” As a result, entry into the taxicab market and taxicab fares, services, and quality were restricted in a substantial way in most cities around the country. [In 2006 there were only 12,799 licensed taxicabs in New York City, compared with 21,000 in 1931, when the city had about 1 million fewer inhabitants.](#)

²⁴ In a published poll, 93 percent of surveyed economists said they “agreed” or “strongly agreed” (and none disagreed) with the statement, “Letting car services such as Uber or Lyft compete with taxi firms on equal footing regarding genuine safety and insurance requirements, but without restrictions on prices or routes, raises consumer welfare” [“Taxi Competition,” September 29, 2014](#)

The solution is not to punish new innovations by rolling old regulatory regimes onto new technologies and sectors. The better alternative is to level the playing field by “deregulating down” to put everyone on equal footing with necessary and proportionate regulation, not harming consumers by “regulating up” to achieve an ill defined parity. Policymakers should review and, when needed, relax obsolete rules on incumbents as new entrants and new technologies challenge the status quo and serve the general interest. By extension, new entrants should only face necessary and proportionate regulatory requirements as more onerous and unnecessary restrictions on incumbents are systematically relaxed.