

How e-collaboration and e-services ensure free market flows and consumer benefits. The case of Spanish transportation services

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Abstract:

Free market is implemented across nations as it has been proven that competitiveness can contribute to better products and services being offered. In addition, it can provide more accurate pricing and overall enhanced wellbeing for society. In the particular case of Europe, the free market is promoted and there are some sectors where regulation is in place to ensure competitiveness. In this context, e-collaboration and e-services have proven to be a tool that enables free market competition, more so than governmental regulations. Through the particular case of transportation services in Spain, the present study evaluates how e-services such as transportation apps contribute to a wider variety of choices for consumers, enabling free market competition despite of complaints by traditional workers in the sector. Results show the positive changes in the transportation sector thanks to the introduction of e-collaboration and digital services.

Keywords: Free Market Competition, Antitrust Laws, e-collaboration, e-services, e-trust, international trade, transportation

1. INTRODUCTION

International trade is based upon free market flows, where products and services compete based on the value added provided to consumers and the differences between the characteristics themselves. Where there is only one (or a small number) of product offering, consumer choice is limited and the incentives towards improvement of goods and services are scarce, as

firms know they will have a secured purchase as society does not have multiple alternatives.

Spain, as other countries within the EU, has a specific institution that controls and regulates free market (the acronym in Spanish is CNMC) and has passed laws specifically to ensure competition remains the norm in the market instead of de-facto monopolies or oligopolies. However, in some cases these laws are difficult to apply due to unclear wording and opposition from some sectors that defend privileges that were awarded to them at different points in time (mainly due to political decisions). Despite favorable public opinion towards the development of free competition (Martin, 2012), the efforts of the legislators to fully develop this objective do not seem sufficient.

The European Union (EU) implements diverse initiatives to prevent Member States from developing monopolistic practices. For example, it has created specific organizations to promote and protect free market and enabling competition, such as the website http://ec.europa.eu/competition/forms/intro_es.html

(¹) in which any individual or legal entity can report cases of disloyal competition evidenced within the EU. Nowadays this topic is of interest to society and cannot be a declaration of good intentions, it must be enforced and evident in day-to-day activities of all industries across Europe. Because of this, several institutions have been created to control and safeguard the fulfillment of all regulations and actions that could endanger free market competition. Although economists have evaluated multiple aspects of deregulation of the taxicab industry (Moore and Balaker, 2006), there is a general agreement that finding a good balance in this industry to promote free

¹ See on the 27th of March of 2011.

market competition cannot be achieved solely with government regulation.

Because of this, there is a need for further research to fill the gap on the appropriate combination of regulation and other factors that can render the taxicab industry efficient. This paper focuses on the case of Spanish taxicab industry by evaluating the regulatory framework and influence of e-collaboration and e-services in the consumer choice and overall benefit of society as a whole.

The research first explains the legislation concerning regulations of professions and services to grasp the context in which the taxicab industry is immersed, considering the influence of the European Union directives. Secondly, the e-services and e-collaboration trends are described with their influence in economic free market competition with particular analysis of European Union cases and the situation in Spain.

While the entry of e-services and e-collaboration is very recent and there is not enough data, data can be derived from consumer choice's perspective and balance between user-frequency and price. Lastly, the specific case of the complex taxicab industry and other services is analyzed, conclusions and future lines of research are derived.

2. PROFESSIONS AND SERVICES REGULATIONS

The Umbrella Act

In 2009 two regulations were passed in Spain, which were known as the *Umbrella Act* "*Ley Paraguas*" and the *Omnibus Act*. Both established higher levels of freedom of specific professions and services. These acts were established following the European Directive 2006/123/CE ⁽²⁾, as a national adaptation of European regulations.

The intention of this regulation was to simplify the administrative procedures, to limit other obstacles, to improve the economic activity in the sector of services, among other objectives. Considering the overhaul of service sector approximately constitutes 70% of the Gross Domestic Product in the European Union (in Spain approximately, according to the last figures, it is around 64%), the regulation intended to significantly improve each of the industries as well as improving the offering for consumers.

With the establishment of the *unique window*, which simplifies the request of licenses and bureaucratic procedures, it is possible to affirm that this act has been

beneficial for the small and medium companies. This is due to the fact that it enabled shorter and simpler procedures, thus increasing the level of efficiency and reducing costs, two of the main concerns for SMEs which typically cannot afford to invest significant sums of money for bureaucratic purposes.

The Omnibus Act

The second regulation that was passed in Spain, was also carried out in 2009, popularly referred to as the *Omnibus Act*. This document modifies diverse laws for its adaptation within the market, furthering enabling the free access to the activities of services and its exercise (*B.O.E.* December 23rd 2009 ³⁾).

Generally speaking, the *Omnibus Act*'s main target is the reduction of protective measures on the economic activities of the tertiary sector: licenses for the operation of the service of taxis, qualification for the installation of gas boilers, permissions for the opening of pharmacies, etc., all this directed toward the establishment of common criteria for the stabilization of the professional activities.

This regulation looks to, on the one hand, increase the mobility and the free competition of the professionals within the frame of the European Union, and, on the other hand to save costs to the users. The *Omnibus Act*, in spite of its shortcomings and limitations, is the first step of a future professional system of free competition in agreement with the norm of the European Union. From the point of view of the quantitative economy it is necessary to judge that this rejection must to the general ignorance of the saving derived from the practices of the free competition.

From the economic perspective, taking as a reference the exposition from Breuss and Badinger (2005) applied to the environment of the European Union, far from to worsening the labor situation, the *Omnibus Act* secured the creation of 150.000 jobs throughout the three years following the launch and implementation of the regulation.

3. CAR RENTAL AND CAR SHARING: E-COLLABORATION AS A COMPLEMENT TO THE TAXICAB INDUSTRY

European e-collaboration

The e-collaboration concept is defined as the use of online platforms to connect diverse groups of organizations and individuals to share access to assets, resources, time and skills that would otherwise not be possible due to the small scale. The European Union,

² Published in the *Official Journal* of the European Union on the 27th of December of 2006.

³ All official documents related to this Act are available on the website of the Ministry of Economy

and Finance: <http://www.meh.es/es-ES/Areas%20Tematicas/Internacional/Union%20Europea/Paginas/Ley%C3%93mnibus.aspx>

and in particular the Directorate-General, which are dedicated to Internal Market affairs. This organization has evaluated the size and presence of the collaborative economy related to professional services, as well as other types of services such as the industry of transportation.

The study conducted by Vaughan and Davario (2016) evaluated five different sectors, one of them being individuals sharing a ride, car or parking. Overall the e-collaboration generated revenues of approximately €4bn and created the framework to enable €28bn of transactions within Europe in 2015, which showed an accelerated growth since a previous study in 2013.

The current situation within this industry shows there is collaboration derived from the usage of technology. In addition, the modifications in the industry have become a fundamental socio-economic trend that modifies the way in which society carries out almost any day-to-day activity. Hence, they are considered to be an economic opportunity for European economies to foster sustainable and more wide-spread growth. Although there is still a need for further understanding of the regulations and effects it has on each industry and at each national market. The report concludes the e-collaboration could be a tool across Europe to balance the needs of consumers, competitiveness, innovation and growth.

In the particular case of Spanish taxicab industry, the main companies that operate in Spain have generated about 15,000 direct and indirect jobs in the last decade. The taxi drivers, who support a monopoly within this sector, have protested against the legislation however figures do not legitimize their claims. On top of this, the Spanish legislation has recently transferred the decisions to each of the regional governments, which intensifies the lack of homogeneous approach, valuable knowledge for decision making and proper evaluation of the measure. Hence, the problem has diversified but it has not been solved.

Given the situation above described, the introduction of e-collaboration and sharing economy has provided an alternative that does not involve legislation or specific directives. The rental of vehicles with driver is a special manifestation of the phenomenon of the collaborative economy. Its impact is perceived by consumers as highly positive even though there is an evident lack of adequate legislation that regulates it (Guillen, 2018).

In Spain, there are currently a wide variety of offers for transportation that are linked to taxis yet some are direct competitors and others are substitute products. Typically a consumer that would take a taxi has as alternatives taking other means of public transportation (subway and bus being the main ones) or using their own vehicle, as a luxury substitute product.

Within the industry some of the actors are firms that enable carpooling, where the driver is going from point A to point B (typically different cities within a region or country) and it opens through the BlaBlaCar platform to host travellers that either take the same route or are going to an intermediate destination.

This type of e-collaboration is based on a software that enables users to rate each other, ranks individuals based on collective feedback of their performance, it caps prices, among other tools. Currently it is facing legal challenges in Spain (Vaughan and Davario, 2016) yet considering most trips are not carried out within a city and the taxicab industry mainly serves metropolitan trips, we do not consider this app as a basis of the analysis.

Because of the herein mentioned scenario, the present study considers the evolution and first disruption in the market as apps such as Cabify that enabled to obtain taxis, followed by Uber, which enables any individual to become a driver so long as they have a valid driver's license and no incriminatory records. Yet the true change came when major cities, such as Madrid, introduced car-sharing programs where individuals could use a vehicle and drive themselves from point A to point B at a fraction of the cost of a Taxi or Uber.

These vehicles have built-in telematics boxes in which a GSM module connects them to satellites that transfer the information to each smartphone so they can be easily located by users. Furthermore, after the customer has booked a specific car, the short-range wireless connection (SRW) enables only that particular user to open the vehicle, use it, and close it once he or she finishes her ride. In doing so, it enables a self-managed circumstance where the user does not require additional assistance.

In addition to these features, by incorporating global positioning systems (GPS) to the vehicle, the firm can learn where each car is at all times, through implementation of geolocation methods. This is beneficial for the company offering the service, as well as for the user, in case of an accident. Despite the main vehicles used begun being cars, there are nowadays also bicycles and other means of transportation such as electric skateboards. All of these operate under Machine to Machine (M2M) all-encompassing systems, simplifying mobility within the metropolitan area.

Cities like Madrid have their own regulation that requires any vehicle sharing program to be aligned with minimizing environmental impact. Thus, the city is creating a network of IoT based on e-collaboration in the transportation industry beyond public transportation and promoting a context where many objectives can be met: free market economy for transportation, alternatives for users who wish to self-drive themselves, environmental protection, among others.

Considering this context, all cars utilized are electric or hybrid, contributing to the reduction of CO2 emissions. At year-end 2018, there are 4 main companies operating in Madrid, and other large cities of Spain: Car2Go (Smart electric vehicles for only 2 passengers), Emov (Citroën Zero vehicles for 4 passengers and some vehicles include baby or children seats), Zity (Renault Zoe vehicles used for inter-city trips) and Wible (Kia Niro hybrid vehicles with private parking and one of the few cars with five stars on the Euro NCAP certification, de las Heras 2018).

For the purpose of this study, the focus is on taxi, chauffeur services such as Uber and self-driving services such as Car2Go which are competitors or semi-competitors-semi substitutes (the underlying product used is a car). Currently, taxi drivers complain because they say that there are more licenses than the ones that should have been granted, and users that do not follow regulations which can cause issues to consumers.

However, in those arguments those agents are only focusing on their main competitors, companies such as Uber, and those arguments are not applicable in the case of car-sharing systems. Individuals preferring to drive themselves using one of the alternatives available do not need a specific license, as all vehicles used are enabled to be driven by B1 drivers' license holders, which in Europe is the common user's type of license.

In addition, all vehicles are automatic, hence it enables a wider variety of citizens to use the cars, and payment is done directly to the company operating the cars, including taxes. This works in favor of the National taxation system, avoiding loopholes and areas left to be interpreted by judges as it is with the case of Uber or BlaBlaCar, which continue to cause controversy. Still, all the new actors of this particular industry have significantly modified the market in the last 10 years, thanks to technological developments enabling e-collaborations.

4. CONSUMER BENEFITS AND FREE MARKET COMPETITION IN SPAIN'S TAXICAB INDUSTRY

The table below shows the volume of users per each type of e-collaboration alternative in the taxicab and transportation industry. The carsharing programs where individuals are their own drivers has proven to be one of the most successful ones, and contributes to ensuring there are enough competitors and substitutes for taxis, thus promoting the free market competition. Based on the number of downloads and usage of the apps, in addition to the available information on the company's website, Table 1 compiles the volume of users and years of activity in the city of Madrid. The apps have not been used for a decade hence there is not enough data to conduct a thorough empirical study

evaluating the influence of diverse variables. In addition, in the case of Wible, since 2018 is the first year of implementation, there is only an estimation of the amount of downloads, hence users, it will have by the end of this fiscal year.

Table 1. Current Taxi Competitors in Spain.

Own elaboration.

Company name	Founded	Introduction in Spain	Aprox. volume of users in Madrid (2017-2018)	Logo
Uber technologies Inc.	2009 (San Francisco, CA, USA)	2014 (UberPop) 2016 (UberX)	100.000	
Cabify	2011 (Spain)	2011	200.000	
Car2Go	2008 (Ulm, Germany)	2015	200.000	
Emov	2016 (Madrid, Spain)	2016	160.000	
Zity	2017 (Spain)	2017	50.000	
Wible	2018 (Madrid, Spain)	2018	55.000	

Considering Madrid is a city with 3.5 Million citizens according to the 2017 National Statistics Data, the figures reflected in the table show there is a significant usage of the platforms. This holds true especially for those citizens that do not hold a drivers' license, and thus would not be eligible to use the self-driving apps. Meanwhile, those citizens that would be able to make use of those specific apps can drive themselves, or use Uber or a taxi's services, depending on their needs.

Carsharing, self-driving, on-demand car apps have earned the trust of citizens and have proven to be of high quality. In addition, citizens consider it a valid service and solution to their mobility needs in addition to other traditional industries such as taxis. This contributes to a greater availability of options, which in itself has an impact on the regulation of price and offering. These are two key factors of the free market competition, that allow consumers to have greater choice and no-unilateral price setting practices.

Technology has thus been an enabler in the relationship between consumers and offerors, in diverse dimensions of e-service quality and trust (Purani and Sahadev, 2015). In European cities such

as Madrid, citizens are used to technological improvements and adopting diverse tools that can render their lives easier. This, tied in with the EU approach towards a digital single market, contributes to the adoption of e-collaboration, e-services and in particular the self-driving car-sharing initiatives.

5. CONCLUSIONS

It was herein described the current situation of the Spanish taxicab industry, ranging from the effects of the legal regulation and the introduction of diverse alternative choices for consumers. By assessing the introduction of e-collaboration services such as car-sharing programs in this particular industry, an initial evaluation of the industry's free market competition is derived. Under the existing regulations and considering the diverse agents that operate in this market, evidence shows the introduction of self-driving car-sharing programs together with Uber and Cabify have increased competitiveness.

This scenario of greater free market competition has not been evidenced after specific regulations begun being enforced. Therefore, preliminary conclusions are that one of the most viable ways to develop free market competitiveness is to promote the creative capacity of the agents that supply a particular good or service. This will in turn tend to reduce the expenses of the consumers in a system of perfect competition, while enabling various alternatives for consumers.

Within the European scope, changes in citizen's day-to-day lives thanks to the influence of IoT represents an opportunity to be exploited through the Digital Single Market initiative. Thanks to the usage of technology, it has been evidenced that some sectors can thrive in perfect market competition environments and consumers have more choices tailored to their ever changing needs. In addition, this context creates a virtuous cycle upon which firms can leverage their opportunities in professional and service sectors, through the implementation of e-collaboration and technological development.

While Spain must adapt to the directives of the European Union, some of its recent legislation has not had the desired impact in enhancing competitiveness, such as the *Omnibus Act*. Furthermore, these regulations are incomplete as they do not include the 21st century realities of consumers. Finally, regulations can be ambiguous and complex, not clearly establishing the implementation or limitations on the industry where it has an effect.

Because of this, e-services and e-collaboration have contributed to the creation free-market and greater opportunities for consumers, resulting in a better environment for all actors of the economy. This can be beneficial over time as these apps have a greater number of users and citizens can choose the best alternative according to their needs at a particular moment in time.

Further studies should be carried out once these new initiatives have been in place in Madrid for a longer period of time (i.e. one decade), together with replications of this exploratory study in other cities of Spain. Additionally, comparisons between Madrid and other capital cities in Europe would be interesting, considering free market competition as well as the overall impact of these initiatives and collateral effects (such as the use of e-vehicles instead of fuel-based ones). Lastly, comparison between cities in Europe and other regions of the world would be of interest, comparing regulations as well as agents operating in the market.

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