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EFFECT OF COVID ON THE SHARING ECONOMY: DELPHI ANALYSIS CONFIRMS THAT QUALITY PLAYS A KEY ROLE IN CUSTOMERS' SATISFACTION

Abstract*: This paper aims to determine the impact of COVID on the sharing economy (SE) in order to assess customer satisfaction and to understand factors other than COVID that could affect the future of the SE.*

Through the Delphi method, the factors relevant to the impact of COVID on the SE are analysed, and the relationship between satisfaction and quality is defined to determine loyalty. The validity of this study revolves around the responses of 13 experts in each of the rounds.

Results proves that the highest rank given by the experts was directly related to the impact of COVID, namely, hygiene measures, protection from contagion and the probability of an increase in transactions in the distance medicine sector. The second place was occupied by statements related to technology, specifically, those related to new forms of mobility and to the generation of new mobile connection and devices.

Keywords: *Sharing Economy, Service Quality, Customer Satisfaction, COVID, Delphi.*

1. Introduction

The impact of COVID-19 on the global economy is likely to be unprecedented since the 1930s Great Depression (Euronews, 2020). Indeed, vulnerable groups have been disproportionately affected by COVID-19, and the social gap is more evident.

Just as the SARS epidemic nearly two decades ago gave rise to Alibaba and transformed e-commerce in China, the COVID-19 pandemic is likely to impact global consumer attitudes and behaviour in multiple ways, having long-standing effects on industries. Some cohorts of customers, such as older consumers, who were previously reluctant to engage in digital activities, have seen the necessity to embrace e-commerce and e-communication during the lockdown. During the crisis, technology and IT tools have proven to be very useful. Digital platforms as YouTube, Netflix and Facebook, strengthened their presence in the market. COVID-19 seems to be a catalyst for the permanent shift to contactless payment due to concerns over infection.

Brands and businesses that will emerge successfully from this pandemic will most likely be those that are prepared for the new normal of digital consumer engagement, e-commerce and at-home consumption. Kirk and Rifkin (2020) defined three phases during the COVID-19 period. The first one was to react, for example, with the use of additional hygiene measures; the second one was to face it by finding alternative solutions to maintain

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economic activities, such as remote work and accepting social distancing. In third place, long-term planning defined the new normal to reactivate consumption and adopt new ways of working to ensure a stable job.

In contrast to the seemingly permanent changes, other trends seem to be rather transitional, conditional on the current unforeseen and sometimes uncomfortable situation. For example, home cleaning, hygiene and healthy living will be high on the agenda, as more consumers are prioritising virus prevention.

The reduction in international leisure and business travel as well as in airplane travel, the reduction in the use of public transit and the increased use of personal cars seems to be medium term. Similarly, the reduction in eating out and going out, avoidance of large events and public gatherings and spending time at home seem to be returning to pre-pandemic levels gradually now that the threat is not as radical.

Before the outbreak of the pandemic, the sharing economy (SE) had been growing exponentially. In just 10 years a countless number of digital platforms encompassing different sectors had spawned around the globe, predicting a very promising future for the sector (Pwc 2015). The SE can be defined as a disruptive phenomenon in accommodation, the transport sectors and even health care, where the use of applications for remote care has been readapted and incorporated as well as the ordering of medicine online (Galhotra and Dewan 2020).

As a business model, the SE platforms are based on the interaction of three main actors: (1) an internet platform that enables matching and trust-verified transactions among users; (2) a peer service provider which offers temporary access or full ownership to idle assets; and (3) a customer who seeks access or ownership of an asset and offers monetary or non-monetary compensation (Benoit et al., 2017).

The SE is enabled by technology and by changing consumer lifestyles (increase in urbanisation) worldwide. The ease of paying by card and contactless as well as peer-to-peer payments for a service has reduced the barriers to the uptake of services offered by digital platforms in general and SE platforms specifically. These changing consumer behaviours go in hand with the entry of digital platforms into different sectors. Millennials were the early adopters of innovative technology. As long as the price bracket was affordable, they were willing to experiment. The SE has the capacity to take underutilised resources and make them useful and efficient for society.

As the pandemic crisis grew, the future of the SE became less obvious. For example, Airbnb, one of the biggest companies in the SE population pertaining to the touristic sector, discontinued its operations and laid off 1,900 employees – about 20% of its workforce, and Uber reduced approximately 6,700 full-time employee roles (Uber 2021). Other online digital companies continued to operate. Share prices of Uber, a global mobility sharing company, are growing. Uber has a vast portfolio offering, which ranges from electric bikes to dog transportation, marking a trend in the diversification of service offerings. Table 1 shows the impact of COVID on Uber and the resultant decrease in trips as well as revenue.

Table 1. COVID's impact on Uber

Year	Trips (Millions)	Revenue ($ Billions)
2016	1.818	3
2017	3.738	6.89
2018	5.220	9.29
2019	6.900	10.7
2020	5.017	6.1

So far, it seems that the effect of the pandemic on different sectors of the SE is in parallel with the effect of the pandemic on traditional sectors. The SE is considered an opportunity to transform how business is done.

However, many have argued that the effect of COVID will result in the idea of "sharing". Specifically, many have argued that the SE is not going to survive beyond the pandemic. The principal objective under the "new normal" is how to reposition the companies that prior to COVID seemed unstoppable. Preoccupied by contagion, people will arguably be reluctant to rent or to share their properties, houses, cars, buy second-hand or trust strangers. On the other hand, "sharing" can redefine transactions in the sense that people will have more digital interaction.

Certainly, with a high degree of variability (and low standardisation) enabled by strong search engines, the SE enables users to access the long list of products and find options that suit specific needs, such as purpose, location, time and price. SE products and service are not standardised, and it is impossible to talk about quality in the way we traditionally understand it. Additionally, in most cases, the digital platform is a middleman that has little control over the customer experience. The approximation of quality in the setting of the SE is the trustworthiness of the user (their good will, punctuality and benevolence). The common practice of the SE platforms is to use trust verification and to mutually evaluate peer trustworthiness after conducting each transaction. Reviews and comments from other users are important to influence decision-making. Few platforms evaluate tangibles. Will the pandemic experience change this practice, forcing platform owners to introduce evaluations of tangibles based on cleanness or hygiene? Will the rustworthiness of users be measured in these terms?

In sum, the projection of the future of the SE is complex. On the one hand, COVID, by accelerating technology adoption among a population that was previously reluctant to use digital platforms, might have a positive effect on the SE. Additionally, given the medium-term recession, consumption of new products will likely shrink, while the consumption of cheaper second-hand products or amateur services (both related to the SE) is likely to increase. On the other hand, it will be difficult to establish trust among strangers given the pandemic experience, at least in the medium term.

The research objective of the paper is to determine the impact of COVID-19 on the SE and other factors; thus, the specific research question is as follows:

1. What are the impacts of COVID-19 on the SE?

The paper discusses the theory behind the SE and carries out a screening of documents that support the answer to the questions. Through the use the Delphi method, the relevant factors in the impact of COVID on the SE are analysed. Subsequently, an analysis of other factors can affect the present and future of the SE is presented. Finally, the conclusion presents the contributions of the document and future lines of research, a discussion to fine-tune our findings and insight for future research, and contributions to the literature before we conclude with our final remarks.

2. Literature Review

2.1 Definition of the Sharing Economy

The concept of sharing is not as new as we think; in fact, it is as old as humanity. The idea of the SE is to give a socio-profitable ecosystem where there is no endless power of goods and products. It involves uniting and temporary power by sharing products and services within societies and communities.

The SE, from the perspective of a capitalist theory, can be defined as a socio-economic system based on the capacity to share resources in an efficient way through the use of technological platforms.

Botsman (2013) popularised the expression of collaborative consumption and analysed and classifies activities such as bartering, renting, gifting, lending and swapping into three categories: (a) product service systems, (b) redistribution markets and (c) collaborative lifestyles.

On the other hand, Belk (2014) raised only two criteria for classification: true and pseudo sharing. Belk defines "true sharing" as temporary access instead to private property; in this system there are no fees and the use of digital platforms stands out. In the SE, underutilised assets are shared in a way that improves efficiency and sustainability. Shared assets are a relatively old concept, but using Internet-based operating systems and tools that use Web 2.0 technology is relatively new (Belk, 2014).

Carfagna et al., (2014) defined the SE as a digital connection with categories such as recirculation of goods, increased utilisation of durable assets, exchange services, sharing of product assets and building of social connections. The term SE refers to the field of sharing resources in an efficient way (Agarwal and Steinmetz 2019). The characteristics of the SE are driven by three separate market forces, including societal drivers, economic drivers and technological drivers The references mentioned are just some examples of the criteria of different authors that can be complemented to have the best definition of what the SE is.

2.2 Distributive Efficiency

The theory of distributive efficiency developed by Abba Lerner raises the efficiency in which goods and services are distributed to the user who needs them to obtain the greatest utility. Stigler and Lerner (1945) relied on theories of utilitarianism and marginalism to complete their contribution. The contrast between waste and efficiency allowed Lerner to establish three concepts for his theory: (a) productive efficiency, (b) allocative efficiency and (c) distributive efficiency. The first is related to the allocation of the resources to obtain the greatest benefit, and this is complemented by the third concept in order to find an efficient distribution; therefore, without good distribution, complete efficiency will not exist.

2.3 Service Quality Assessment in the Sharing Economy

One of the main streams of research is related to the quality of these services. Some papers propose measurement scales composed of different dimensions, which makes is easier to understand that this is a multifactorial construct (Benoit et al. 2017; Cohen and Kietzmann 2014; Bardhi & Eckhardt 2012; Del Mar Alonso-Almeida et al. 2014; Martínez et al. 2018; Schaefers et al. 2016).

Marimon et al. (2019), based on this previous literature with extensive empirical work, proposed an instrument valid for any platform operating in the SE, regardless of the specific activity sector. The quality dimensions were related to the platform and others to the peer server. Similar analysis has investigated the impact of perceived quality on other constructs, such as loyalty or satisfaction (Cheng et al., 2018).

The interest of sector analysis at a national level is of paramount importance. One determinant in all this is the analysis of current tourists: their demands, their capacity to consume, their preferences, etc. (Farmaki et al. 2015; Jakulin 2016; Nunkoo 2015; Stranjancevic, A., & Bulatovic 2015).

Consumers are uploading their experiences and are assessing and rating the services consumed. More and more data are available and ready for analysis. In this vein, some articles are publishing results based on big data analysis (e.g., Batista e Silva et al., 2018; Mariani et al., 2018) and others on meta-analysis based on previous studies.

2.4 Business Models

Along the line of how to do business, the collaborative economy is beginning to gain strength as a model that generates value. The value proposition arises from supply/demand, customer segmentation, and the relationship that is maintained with the business is also considered. (Osterwalder et al., 2010) For the creation of value, the channels are analysed, that is, the activities related to the value chain that also incorporate the various sources of available income arising from transactions between goods and services.

Defining the SE is not only defining a business model, but it can be considered a sustainable and disruptive model (Carayannis, 2020). The model contemplates non-traditional transactions, contemplating respect for the environment, reducing information asymmetry and reducing social disparity.

3. Method

Okoli and Pawlowski (2004) stated that the Delphi method is an important and popular tool used to get information. The technique to obtain data is based on a structured group interaction through a questionnaire (McMillan, King, and Tully 2016).

The Delphi method used in this case is based on 2 rounds of questionnaires sent to a panel of experts to achieve consensus after each round and look up the common and uncommon factors.

3.1 Design of the Delphi Questionnaires

The questionnaire was designed based on the author's opinion about the possible effects of COVID on the SE. Experts were asked to rate those factors on a 5-point scale (1 = not probable and 5 = very probable). The first round of the questionnaire was presented to score each of the questions. Responses were collected and analysed to verify deviations in average scores. In the second round, the questions were kept and presented to the respondent, and their response was compared to the panel mean, with the aim of reducing the gap in dispersion (McMillan et al. 2016).

3.2 Data Analysis

We followed established procedures during the selection and recruitment of the expert panel, such as anonymity (Okoli & Pawlowsky, 2004). To identify the potential experts, we searched Web of Science using the keyword "sharing economy" for influential publications in established peer-reviewed journals (Podsakoff et al. 2005). The intention was to include experts from different subfields within the SE research (marketing, strategy, sustainability) and from different sectors (hospitality, mobility, finance).

We approached 33 experts, and after we explained the purpose of the study, 14 experts agreed to participate (response rate 42%) (Hsu and Sandford 2007). According to Landeta (1999), the optimal size for a Delphi study is between 9 and 30 experts. Once the participants agreed, they were informed about the procedures for the data collection (Hasson, Keeney, and McKenna 2000).

The expert panel was composed of 13 European academic experts on quality business management. All of them have published in journals included in the Scopus database, with an average of 48 papers, ranking from 2 to 152 (table 2). The average H-index was 13, and number of years in academia ranged from 2 to 25 (average 12 years). There were six countries represented. All this proves the academic level of the panel as a group. Additionally, it was verified that all of them had been publishing on quality management, some of them extensively, and some in the context of the SE. All this vouches for the adequacy of the panel for our purpose.

Table 2. Panel demographic profile

Expert	Number of papers published in Scopus	H-index (Scopus)	Years in academia	Country
1	87	20	15	Spain
2	37	8	9	Spain
3	73	29	20	Spain
4	152	24	25	Italy
5	11	5	4	Pakistan
6	66	27	21	Spain
7	44	15	11	Spain
8	82	17	12	Italy
9	15	2	9	Croatia
10	18	9	10	Spain
11	28	7	12	Portugal
12	2	2	4	Spain
13	3	0	2	Russia
	(AVG = 48)	**(AVG = 13)**	**(AVG = 12)**	

4. Results

Table 3 (see Appendix) presents the results of the study outlining the evolution of the responses over the course of the study. The statements were sorted according to their position in the second round. It can be clearly seen that the degree of dispersion across answers was significantly reduced – the averages of the standard deviations passed from 0.93 in the first round to 0.81 in the second round. Kendall´s W was used to gauge the strength of the consensus. This indicator passed from 0.58, representing moderate consensus, to 0.6, being very close to strong agreement (Schmidt 1997). After obtaining these results we considered that the survey had achieved saturation and that the costs of performing another round did not outweigh the potential benefits of an increased consensus.

The highest rank given by the experts was directly related to the COVID impact, namely, hygiene measures, protection from contagion and the probability of an increase in the transactions of companies in the distance medicine sector. The second place was occupied by statements related to technology's impact on the sector, specifically, that related to new forms of mobility and to the generation of new mobile connections and devices.

5. Findings and Discussion

We divide findings into several logically connected sections. We start the explication with the general projections of the impact of COVID on the SE.

The SE is considered an opportunity to transform how business is conducted (Ritter and Schanz 2019), and concerns about social embeddedness have positioned the SE as a good alternative for consumers (Hamari, Sjöklint, and Ukkonen 2016). But the outbreak of the COVID-19 pandemic has disintegrated full global sharing due to its unknown effect across the globe. The effect of this pandemic is seen across all profitable disciplines, including both formal and

informal sections (Tavares et al. 2019).

A major epidemic outbreak happened during the First World War, 1918–1920. The epidemic caused the idea of sharing, to disintegrate substantially in the United States, and it took close to 50 million lives across the globe (Karlsson, Nilsson, and Pichler 2014). It spread to India in a form known as Bombay Influenza, which took the lives of close to 14 million (Brainerd and Siegler 2003). Just as John Maynard Keynes suggested that technology was central to ending depressions, the Spanish Flu was fought with technological advancements that happened during that period, both in healthcare and artificial changes. On analysis, we find that a resuscitation from a similar epidemic situation is dependent on technological advancement (Brainerd and Siegler 2003).

From these earlier epidemic scholars, we can have multiple ideas. One is to design a macroeconomic model for each of the global, indigenous and public levels. Second is to have duly channeled health wisdom models and using technological advancement to develop business models and attain a profitable recovery. A proper advancement of the entire business ecosystem is possible to revamp a sharing business model.

5.1 General Projections

Our expert panel opinion was rather skeptical about whether the SE will continue to grow exponentially once the pandemic is over. In parallel to that, the common opinion was that the pandemic will have a drastic effect impact on the SE. However, there were some divergent opinions:

The length of the pandemic will likely intensify reactions to it, at least in the short and medium term. However, in the long term, I think the effects will not be that great. Human beings are like that; we soon forget, and we let ourselves be carried away by socio-economic routines, which are very strong.

The effect of COVID might introduce some positive changes into some aspects of quality, such as cleaning. We might also witness the incremental changes towards the digitalisation of services and new business models based on digital interaction. These might be attributed more to global environmental concerns rather than the effects of COVID. In the long run, once we have the treatment, the effects will be become less noticeable.

Of course, COVID-19 will disrupt some issues; however, in the long term, most things will return to the original scenario.

Finally, experts were rather neutral as to whether the purchase of new products will decrease.

5.2 Sharing Virtually and Sharing Physically

There are different classifications of the SE, based on the sector, type of sharing, type of network externalities or type of transaction costs. Which classification is becoming important during the pandemic crisis?

Initially, the SE was related to collaborative consumption due to both coordinating the acquisition and distribution of a resource to get a compensation. The collaborative aspect of early digital platforms, such as “couch surfing”, was important considering that the hospitality was free but the guest can compensate the host with actions of mutual benefit. The role of socialisation played an important role. Further on, the role of socialisation became less important in general and limited to specific business models. Social distancing seems to be further accelerating this process. The new normal is to do learning, exercising, socialising, singing and partying online. But will this trend vanish in the medium term after the pandemic?

The expert opinion is that the im inent effect of COVID will have a rather favourable effect on services shared virtually. Again, some opinions were rather cautious:

I keep the rating, because I realy think that more economic activities will come up only in

the "virtual" and non-contact world. I do not know now which, but the platform that does not need physical contact will increase.

COVID-19 will trigger an economic downturn that will likely reduce many sorts of transactions. That may compensate for the positive effect related to the no-physical-contact characteristic. Thus, I think the answer depends on whether a particular industry is impacted by an economic downturn.

My neutral opinion is based on the doubt regarding the forthcoming general increase in transactions due to the general recession scenario. If the question were formulated as just the contrary, I mean: "platforms that require physical contact will lose transactions" or "platforms that do not require physical contact between peers will increase their SHARE in total transactions", my answers would be 5. I don't know if the global number of transactions is going to increase or even be maintained, so even non-physical-contact platforms could suffer regarding maintaining the number of transactions. I stay skeptical.

When customers can choose between a service delivered physically or virtually, the latter is more in demand. During confinement, people increased their familiarity with the virtual environment. Moreover, concern related to physical human interactions is increasing.

Experts were skeptical as to whether COVID would increase transactions that require physical contact. These effects seem to vanish in the long run. When asked about the long-term future, experts already were not so skeptical about the idea of physical sharing, while the trend of virtual sharing seemed to remain.

5.3 Economic-efficiency-focused platforms and socially focused platforms

A global trend towards the economic efficiency of the sharing digital platforms was gradually gaining ground with respect to the social components of sharing. The focus of most of the digital platforms was on efficiency, economic and environmental. Another trend that is already a reality is a so-called s-commerce – electronic commerce on social network platforms. COVID has seemingly increased this solidarity.

An example of a non-profit platform focused on sustainability is Som Mobilitat, formed by a cooperative of consumers and users to promote actions and projects in favour of sustainability and pollution reduction.

Our experts were slightly more optimistic about the idea that platforms with a strong social mission will increase transactions during the pandemic crisis compared to the platforms oriented towards economic benefit. This optimism was acknowledged as a challenge:

I adapt my answers because I think that shows the next challenge better.

I keep the rating, because I really think that the world will be more pro-social after the coronavirus. Personal experiences of people during the coronavirus crisis will make people more sensitive to other people's necessities.

Confinement has resulted in great sensitivity among people.

5.4 Prospects for the Medicine and Education Sectors

Many sectors moved their operations online during the pandemic, with some resultant efficiency. The technology was prepared for the effective process of digitalisation, and the question was only the social shift. COVID and the related experience of lockdown drove the necessity for online education. The collapse of medical services and the risk of contagion made online medical consulting the best option. Would those changes continue over the pandemic?

The experts unanimously agreed that platforms providing online/distance medical services would increase transactions. Less consensus and slightly lower probability were

attached to platforms oriented towards online/distance education increasing transactions.

Doctaly claims to be the UK's first online GP business that enables cases to engage in an accessible face-to-face discussion with an NHS GP on a private, figure-paying base. The company describes itself as 'Uber-suchlike', after the ride-booking service; individuals can search for doctors by position or name via an app, book an appointment and pay securely online for the service.

The caveat is that medical services strictly speaking do not fall under the category of the SE.

5.5 Role of Hygiene (or Trust), Cancellation Policies and Personalisation

SE products and service are not standardised, and it is impossible to talk about quality in the way we traditionally understand it. Additionally, in most cases, the digital platform is a middleman that has little control over the customer experience. Now, the platforms will need to reassure the users they have taken sufficient steps to ensure hygiene practices in a post-COVID world.

Espousing strategies such as furnishing walls between drivers and passengers, equipping the vehicle with sanitisers and installing digital thermometers to measure passengers' body temperature in order to exclude the possibility of infection may rejuvenate ride-sharing requests. Still, the added preventative measures can cause fares to increase (Morshed et al. 2021).

For example, in the case of Airbnb properties' rating of hygiene prior to COVID, this might not coincide with the post-COVID expectations of travellers. To overcome this issue, there might be a need for a new hygiene rating for the properties, which can end up being a lengthy and resource-consuming process. For shared mobility, the rating might require a different solution. Some companies, like Yanfeng Automotive Interiors, GHSP or JLR, have already developed some sanitation devices for the heating, ventilation and air conditioning (HVAC) systems sanitising the air inside the cabin by using different technology, such as ultraviolet and negatively charged particles (ions). Some companies, such as Faurecia, foresee a greater incorporation of gesture- and voice-based controls in the future, meaning shared mobility users might not have to touch any surfaces at all.

Now with the increased demands for cleanness and hygiene, peer trustworthiness, in terms of cleaning and hygiene, presents an issue, not to say that in general individuals might be reluctant to use second-hand goods or to invite a stranger to the house in order to fix things.

The approximation of quality in the setting of the SE is the trustworthiness of the user (his or her good will, punctuality, benevolence). The common practice of the SE platforms is to use trust verification and to mutually evaluate peer trustworthiness after conducting each transaction. Few platforms evaluate tangibles. Will the pandemic experience change this practice, forcing platform owners to introduce evaluations of tangibles based on cleanness or hygiene? Will the trustworthiness of users be measured in these terms?

Another challenge and opportunity for creating a tangible differentiation from competitors are cancellation policies. As a result of many travellers' plans being cancelled or postponed in 2020, the effects of this will last into future traveller priorities. Claiming refunds or travel vouchers for many different travel companies has been difficult and highlighted by the media. Offering a prolonged cancellation window which is free and easy will be at the top of traveller priorities, as confidence levels on booking a trip will be lower than ever. Last minute bookings may also see a rise, as once travel restrictions and lockdown measures are lifted, travellers may be itching to travel again, booking last minute getaways and experiences. Consumer protection plays a

relevant role in decision-making when the person makes a reservation. However, the extent to which the company is able to handle cancellations or the cash flow that will be necessary to cover cancellations or changes. is debatable.

Our experts consensually agreed upon the role of hygiene measures that will likely to be reinforced over the pandemic: hygiene measures will be more valued as will protection from contagion, with this last point having stronger agreement. Trust verification will likely to be reinforced as well: trust verification of peers will become more important. Experts agreed that cancellation policies will be simplified. Logically, there was less consensus regarding personalisation being more valued: the more personalisation, the more uncertainty in terms of standards.

5.6 Factors Other than COVID

New forms of mobility. The new forms of mobility were being developed long before the outbreak of COVID. Car sharing, bike sharing and ride hailing are part of the new forms of (Goldman and Gorham 2006). On the other hand, autonomous driving, connectivity and electrification could define the disruptive dimensions of mobility (Möller et al., 2019). The economic crisis, stemming from the pandemic, stands to be the most abrupt shock in modern times. Despite huge controversy, specific examples are drone taxis, already under development, such as Intel's two-seater drone in partnership with Volocopter or Uber Elevate's (the division working on aerial electric ride-hailing services) model nexus hybrid-electric aircraft. A passenger drone on a single charge is currently held back by battery life but, once this challenge has been overcome, there is the potential for drones to take the place of commercial aircraft.

Additionally, Uber has been actively developing technologies to build a fleet of AVs under its dedicated Advanced Technologies Group, which has already built more than 250 self-driving vehicles, captured data from millions of AV testing miles, and completed tens of thousands of passenger trips. In the same direction, Lyft's Autonomous Group is working on two distinct initiatives: a platform to connect Lyft riders with semi-autonomous vehicles from partners – for instance, Waymo in Arizona and Aptiv in Las Vegas – and creating its own autonomous vehicles. In May 2019, Lyft announced it had carried out 50,000 rides with self-driving cars powered by Aptiv in Las Vegas, having started this service a year earlier.

In a similar vein, DiDi Chuxing was recently awarded a permit to test driverless cars in Shanghai. The vehicles are capable of operating without any human intervention within a certain area. Over 50 companies now have licenses to test drive AVs in California. The Chinese, led by Baidu, are investing significantly in AV technology, and three Chinese-funded start-ups – Pony.ai, Roadstar.ai and Jingchi.ai. Google's Waymo logs more than 25,000 autonomous miles every day. Consumer-focused efforts from Tesla and Audi are likewise setting the stage for the widespread adoption of limited autonomous driving (under select conditions such as speed and driver supervision).

The use of a private vehicle with a single occupant offers mobility with physical distancing and low risk of transmission but entails costs in the form of high emissions, noise and the occupation of urban space. Additionally, cities with high traffic volumes prior to the pandemic will have difficulty managing an increase in vehicles in circulation, thus limiting space for active transportation. Taxis and shared vehicle services, such as Uber and Cabify, offer a more flexible option for people who may require the use of a car, especially the most vulnerable population groups, such as the elderly. In cities in Germany and the United States, for example, work is being done to provide access to these services and make them economically affordable. If implemented in conjunction with city

transport management, they are a viable option that can minimise the need for an individual vehicle.

Among the challenges posed by the "new normal" in terms of mobility is the redesign of cities to adapt to new offers maintaining security parameters. Governments seek to support mobility initiatives for start-ups, but low levels of capital in the market pose a challenge to growth.

Technology. Technology is a critical asset for mobility management, and it is underused. Mobile device applications can help citizens find optimal routes and suggest alternatives to avoid overcrowding. For example, applications can alert the public in real time about which streets are congested, and they can be used to schedule public transport trips in advance to limit occupancy.

Technology has aided the growth of the SE trend. As a growing share of the population worldwide started using their mobile phones to access the internet, there was an upward trend in using one or another sort of digital platform. As consumers from developing countries gain increased access to the Internet and as the prices of smartphones continued to stabilise, there will be likely be growth in the digital economy of these countries. Some strong local players such as Ola (India) and Careem (Middle East) have appeared, offering a multifunctional mobile app combining several features, such as communication, lifestyle, social, financial and retail into a single platform, ensuring that consumers continue to use the platform often for different needs.

On the other hand, the success of the sharing platforms can be attributed to the strong data analytics. For example, Airbnb algorithms determine suggested prices to hosts based on things like transport links, time of year and competition. Similarly, Uber is unlikely to have been so successful if it didn't offer real-time tracking or payment through the app. Some other advances, such as blockchain, have further allowed the digital economy to creatively develop and implement new tools for an incremental improvement in the service quality, security and value creation.

Regulation. Digitally mature organisations recognise that external change is an ever-present aspect of doing business and have made themselves sufficiently able to respond rapidly and strategically (Fletcher and Griffiths 2020). In many countries, the SE platforms have worked with a lack of institutional clarity, facing resistance from traditional players in the sector, which has often resulted in stricter regulations. For example, in 2019, the regional government of Barcelona introduced a 15-minute wait time to be incorporated while booking a ride, which defeated the purpose of the convenience and on-the-go aspect of the ride-sharing apps. Following this, Uber and Cabify suspended operations in Barcelona as a sign of protest. Similarly, in many countries, the legislation for electric scooters is unclear, as is the legality of operating such a service. Additionally, consumer and driver safety are key concerns globally.

Regulations in different countries will react differently. While some regions may consider it a turning point to foster sustainable mobility, other regions may encourage and flex the automotive industry regulations. Under this framework, it is highly probable that in the future, the SE will become more regulated.

Local vs global. The pandemic has given the opportunity and time to consumers to reflect on the basic meaning of consumption and the impact of their consumption not just on themselves but on others, society in general and the environment (He and Harris 2020). While sometimes the SE is marketed as a way to retain money in local communities as opposed to it being siphoned off to multinational businesses, the SE platforms are becoming increasingly globalised. Indeed, depending on the business model, they can additionally make use of network externalities when internationalising. The clear example is the Airbnb business model as

opposed that of Uber, which should construct a red of users in each new geographic area, being exposed to the local players in the way users interact with each other to generate a connection.

New sectors and decentralisation of the economy. There is increasing evidence for how elastic and fluid business models are, allowing businesses to continue, particularly smaller businesses (Fletcher & Griffiths, 2020). Centralised marketplaces – like Airbnb, Wallapop or Upwork – do much more than put a producer in contact with a consumer. In the process of generating exchanges in a reliable and scalable way, they prioritise the best users based on their reputation, offer insurance, manage the payment system, offer customer service and even some conflict resolution mechanisms.

Decentralised marketplaces must also offer all these additional operations to be functional. What is more interesting is that by using open protocols, a decentralised marketplace can have more than one provider for each of these needs, thus fostering innovation and continuous improvement in each of these points.

It is already clear that the SE is increasing new sectors of the economy that seemed impossible just a few years before. Ride sharing might be extended to the air service, and the luxury market. But will it be able to enter to sectors that are state owned, such as electricity? The technology is almost ready.

Sustainability. Today we see clearly that the SE is an alternative to combat excessive consumption, waste and even as a source of income to ease unemployment. In this line, developing resilience is one of the main goals for companies, governments and individuals, all forced to build a new world order guided by sustainability (Tekdemir, 2020).

By utilising accommodations or cars that would otherwise remain unused, efficiency is increased. Despite the early promises of increased sustainability associated with the SE, research has demonstrated no effect or even a negative effect. Some examples of sustainability concerns can be seen in the biggest players.

Airbnb, with its Office of Healthy Tourism initiative, has been promoting sustainable tourism, encouraging hosts to use green cleaning products, provide recycling, use solar panels and suggest public transportation options to their guests. Still the SE is seen as more accessible rather than green. Our experts were cautious about the driving force of sustainability concerns with respect to the SE.

6. Conclusions

Staying competitive after COVID-19 is the goal of most companies. To achieve this goal, new strategies and practices need to be defined (LaBerge et al., 2020). The implications of the collaborative economy go beyond creating new opportunities and benefits for consumers and founders. Their activity clearly impacts existing industries that cannot act in similar conditions due to regulations, the specific assets they own or simply due to a lack of flexibility. They also affect the regulator, which demands, on the one hand, flexibility and, on the other, a heavy hand in the face of new realities not contemplated in laws and regulations created in the midst of completely different technological and social contexts. This affects the customer or potential user, who sees how the offer increases, surely at a better price. And it also affects the participants in these initiatives, generating additional income where there was none for goods, services or knowledge, which previously have been difficult to mobilise beyond an informal and local economy.

With the arrival of the SE, multiple community-grounded platforms were started. These platforms may cease to exist if they are not suitable to fulfil the requests. The right balance in furnishing the correct installations in alignment with the pandemic needs to be combined with satisfying consumers with abatements and offers. Indeed, though this

business has started to take new risks, the pandemic times will likely result in a slight decline in the same.

The validity of this study revolves around the responses of 13 experts in each of the rounds; however, the sample can be diversified with experts from America and Asia to obtain different criteria and have a greater reach.

The general opinion of the experts in the study was that the future rate of SE will not be exponential as it was in previous years. Authors like Mehdiabadi et al. (2020) have mentioned that FinTech was getting stronger in the SE; nevertheless, COVID marked a rupture in the system that had been developing. On the other hand Imran et al. (2020) suggested that it is essential to improve the quality of governance to strengthen the financial system and achieve stability again.

Digital platforms will be of greater importance due to consumers needing to use online channels during the pandemic and after the lockdown to maintain connectivity (LaBerge et al., 2020). It is therefore necessary to generate an environment of trust for consumers where the possibility of cancellation and refunding money will be highly valued.

Other factors in addition to COVID that are mentioned in this research are the new forms of mobility that began long before the pandemic. Things that at some point in the past were unimaginable are now a reality: drones, Volocopter, aircraft. It is clear that car manufacturing companies that maintain their investment in R&D may become leaders (Corwin et al., 2020). The challenge is to redesign cities to adapt them to the new offers.

We could see a significant change in consumer behaviour towards lodging services and overnight stays. Numerous people will be using the services post-pandemic compared to pre-pandemic, the main reason being the shift from the office to working from home. We can also see a steady decline in the tourism during the pandemic. This will continue for some time after the pandemic situation is contained. People who look forward to using these services anticipate having better sanitising and alignment with government regulations. Proper training and guidelines need to be given to the housekeeping staff to offer foolproof and precautionary services to the guests. These community-predicated platforms should concentrate on displaying their brand and broadcasting their new regulations to change the mindset of their users. We can also see that people are significantly aware of these share platforms. So, to support them, the companies should be willing to give more detailed information on their supporting services, like temperature checks, sanitisation, safety measures and following government protocols. The providers should also be given sufficient information on the people who will be using their services. They should be given the specifics of the people who are going to use their services, like their medical condition, or details like the geographical position from which they come, medical instruments and so on. Making the system more transparent will help both the hosts as well as the guests. The data also suggested that people are willing to spend more to obtain better services during the pandemic. A detailed protocol should be mentioned and available so that people can stick to it.

The SE should also concentrate more on ecological and environmental factors to attract further mindful consumers. The crucial factors which drive this business model are trust and responsibility. The crucial players can concentrate on furnishing a unique strategy, as this diligence has the first-transport advantage.

We conclude this article, which contributes various topics that may be of interest for future research, by stating that the short and medium term are still uncertain, so the SE must adapt to new forms of consumption, as in its beginning, in order to achieve a more dynamic interaction and use of resources

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Appendix

Table 3. Results of the ranking rounds

Items	Round 1			Round 2		
	AVG	**SD**	**Rank**	**AVG**	**SD**	**Rank**
General projections						
The pandemic will have a drastic impact on the sharing economy.	3.73	1.1	9	3.71	0.99	10
The purchase of new products will decrease.	3.27	1.03	13	3.21	1.05	13
The number of transactions in the sharing economy will increase.	2.87	0.99	14	2.86	0.86	14
Sharing virtually and sharing physically						
Platforms that require physical contact between peers will increase transactions.	2.29	1.27	15	2.15	1.21	15
Platforms that do not require physical contact between peers will increase transactions.	4.07	0.73	4	4.08	0.76	4
Social mission						
Platforms with a strong social mission will increase transactions.	3.86	0.86	8	3.85	0.90	8
Platforms oriented at economic benefit will increase transactions.	3.43	0.76	12	3.38	0.51	12
Education and medicine						
Platforms oriented at online/distance education will increase transactions.	3.93	1.07	7	4.08	0.86	4
Platforms providing online/distance medical services will increase transactions.	4.23	0.93	3	4.50	0.52	3
Other factors						
Hygiene measures will be valued more.	4.64	0.63	1	4.69	0.48	1
Cancellation policies will be simplified.	4.00	0.78	6	3.92	0.76	7
Protection from contagion will be valued more.	4.50	0.65	2	4.54	0.52	2
Personalisation will be valued more.	3.57	1.16	11	3.62	0.96	11
Trust in the platform brand will be valued more.	3.71	1.14	10	3.85	0.80	8
Trust verification of peers will become more important.	4.07	0.92	4	4.00	0.91	6
AVG	**4.39**	**0.93**	**7.93**	**4.40**	**0.81**	**7.87**
Kendall W	**0.58**			**0.64**		
Number of respondents	**14**			**14**		