

Sharing Economy in a context of pandemic propagation : Case of the COVID19

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Abstract—The coronavirus outbreak identified in Wuhan, China brought the majority of countries in the world under lockdown. The socioeconomic consequences will be, without doubt, severe and enormous. In this paper, we investigate the sharing approach as a strategy to help reduce the heavy toll of the pandemic. A state of the art is provided to describe the virus propagation, the rationale behind the emergence of the sharing concept as well as its impact in a pandemic context. Finally, we suggest a list of recommendations for policy makers in order to attempt the endorsement of the sharing economy to enrich existing measures that have been taken in the same respect.

Index Terms—COVID19, Sharing economy, Pandemic propagation.

INTRODUCTION

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a novel Corona virus, emerged in the city of Wuhan, Hubei, China, in early December, 2019. In Morocco, the first registered case was on 02 March 2020. The Moroccan government had to take then unprecedented measures in response to the Corona virus disease 2019 (COVID-19). The closure of the borders was followed by schools, universities, businesses and places of worship. A total lockdown and medical mask wearing were mandatory.

As it is difficult to quantify whether government restrictions alone are responsible for the drop in cases, we have taken a wider view of this question, making assumptions about the results of urban sharing practices while measuring their effects.

Besides government restrictions, another important factor in disease spread limitation can be the sharing extent in a given community. Once a certain level of sharing through viable means; essentially, platforms was achieved, the risk of transmission decreased and the contact rate has declined accordingly. The disease spread limitation or its propagation would take place when the use of trade sharing platforms is favored over brick and mortar stores. The sharing platforms can allow ordering and delivery goods. Physical contact among potentially infected people would hence reduced.

Sharing platforms have been used, more platforms have been developed during the pandemic. In these circumstance, free course has been given to to developers imagination. Thus, these platforms have played an important role in fighting the

COVID-19 and in ensuring peoples basic and vital needs. Healthcare sharing platforms have provided remote diagnosis (e.g. tbib24). Education sharing platforms have allowed online education systems (e.g. telmidtice), food On Demand.

The aim of this research is to focus on sharing practices in the context of a COVID-19 pandemic. This paper attempts to answer the following research questions: (1) How wouldsharing contribute in reducing the pandemic propagation? (2) Which sharing practices contributed to limit the spread of the COVID-19 pandemic?

Section one introduces the state of art of this paper, it presents insights from the two literature streams related to pandemic and urban sharing. Section two is related to research design and a case study. While section three presents empirical analysis as well as recommendations. It highlights the economic, technological and human dimensions of each. The conclusion reports the main emerging insights, in terms of the managing framework that has been adopted at the pandemic outbreak.

I. STATE OF ART

A. Pandemic propagation

Patient zero of the COVID 19 outbreak was reported in Wuhan (the 8th greatest city of China), in December 2019, where the origin of the virus was probably the Huanan Seafood Market closed by the China government on 01st January 2020. On 15th February 2020, there were over 50 000 cases of COVID-19, 1520 deaths have been recorded in China and about 500 cases in the rest of the world (the first death in France, Europe). Later, more than 115,000 cases have been reported in 114 countries. On 11h March 2020, the World Health Organization (WHO) qualified the current disease as a pandemic. Drastic measures have been introduced by the Chinese government to have the COVID 19 pandemic curb decline. The measures taken include lockdown, social distancing, travel restrictions and restaurants, schools, shops, businesses and industries closure. To tackle the COVID 19, China has deployed various sophisticated technologies including Artificial Intelligence (AI).

While China appears to bring the pandemic under control after 82000 cases and more than 4500 deaths, the number

of cases in Europe and the rest of the world has increased exponentially. The virus, undetected, has been making its way in the entire world. After the first tested positive cases in Europe with an onset of symptoms reported in France on 24 January 2020, other clusters of cases followed and sparked the humanitarian crisis in Europe. On 21 February 2020, nine countries reported positive cases namely: Germany (16), France (12), UK (9), Italy, Spain and Russia (2), Belgium, Finland and Sweden (1). Northern Italy will be hit by the outbreak with thousands of deaths among the cases. From 8 to 21 March 2020, the Italian government, like the Chinese, has adopted draconian measures to fight the spread of the virus. However, the decision-making slowness and the lack of a relevant management vision; such a disease has been set to take a heavy toll. Spain and France have not learnt from the Italy mistakes even with the virus spread pace. These are, thereby, considered as the most hit European countries, with a total 88,000 deaths on 01 June 2020.

Elsewhere in America, the US has become the hardest hit country in the world with a death toll of 106,241 on 01 June 2020. The pandemic had struck the country in January 2020. The death of a woman from California is the first case to be recorded in early February 2020. The US government started by restricting flights to China and then to Europe. By then, the outbreak had already dominated all American states. Another worse scenario of the outbreak was observed in South America by the end of May 2020. The epicentre of the pandemic was Brazil with more than 29,000 deaths.

Other countries, such as South Korea, Hong-Kong, Singapore and Germany have been held up as good examples in handling COVID 19 outbreak. South Korea, for instance, had learnt from the lesson of the MERS outbreak and adopted an early mass testing strategy. The well-resourced healthcare system, the development of its bio-industries and the use of multiple technologies have helped to break the virus spread chain. Thanks to the large-capacity of the German health system and the anticipative strategy of testing a large number of people; in addition to the efficiency of the decision-making, Germany has become the European country with the lowest death rate (8,604 deaths, 9,010 active cases and a total of 183,515 cases on 01st June 2020).

In the African continent, in Morocco, the first case was reported in Casablanca, on 02 March 2020, the government has put important measures in place to contain the pandemic by suspending flights to hit countries; such as China and Italy. The authorities have also stopped maritime links with France and Spain. The first death was reported in Morocco on 10th March 2020. The Government, eventually, decided to resort to remote learning and close schools and universities and suspend all international passenger flights. On 16th March, in addition to the enforced lockdown, restaurants, cafes, cinemas, theatres, sport clubs, hammams (communal baths) and other public spaces have were closed. The evolution of cases and

deaths per continent is illustrated in figure 1 (using data from <https://ourworldindata.org/covid-cases>) below:

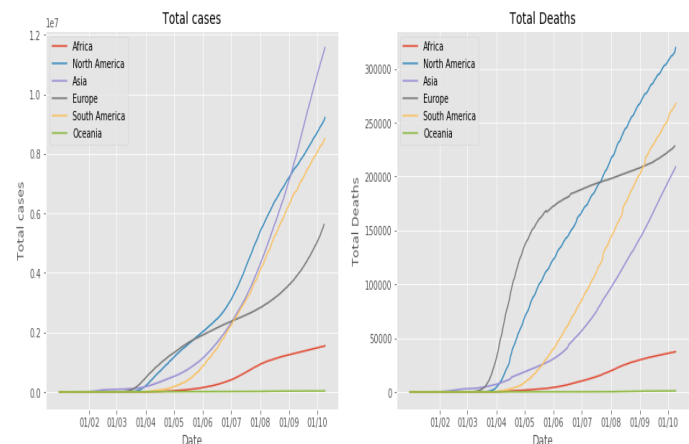


Fig. 1. Evolution of total of cases and deaths per continent.

B. Emergence of sharing economy: Rationale

The outbreak of the COVID-19 pandemic has generated significant challenges for people worldwide. In this respect, it has also revived sharing practices in cities, which in turn have triggered people to share resources. According to Salz [14], changes in attitudes towards consumption and ownership have changed, and the development and improvement of Information and Communication Technology (ICT) have offered opportunities for individuals to coordinate their engagement in sharing resources. This has been almost unthinkable only a few years earlier.

Several countries have encouraged sharing to slow the spread of the COVID-19 pandemic. The aim of this paragraph is to gain a better understanding of the reasons for the sharing emergence, and to provide an insight into the role of sharing economy in terms of pandemic propagation mitigation in the light of economic, technological and human dimensions (see [2]) as presented as bellow:

1) Technological dimension: recent information:
 Technological dimension: Recent information technological advancements; especially the development of urban digital platforms has led people to rethink the role of sharing platforms in order to accelerate the smart city revolution. Apps, maps, and other forms of online platforms are facilitating new connections among citizens, consumers, businesses, social enterprises and charities seeking to tackle issues; such as food waste, food security and unsustainable food production (see [11]).

The European Innovation Partnership on Smart Cities and Communities (EIP SCC) has identified the need for sharing data for social and commercial purposes (see [4]). In the same vein, the sudden lockdown, physical distancing and further measures in response to the COVID-19 pandemic have posed

great challenges for all citizens. To adapt to the new constrained life, sharing platforms emerged as a way to minimize mobility within the city. This would result in reducing the number of infected people and would lead consumers to ramp up online shopping. The urban sharing platforms have already contributed to the resilience of both individual citizens and as well as cities.

2) *Economic dimension*: In recent years, the emergence of numerous sharing platforms has empowered individuals, who share products and services, across the globe. The benefits of the sharing platforms have been lauded. They have democratized the economic activity and developed inter-personal interaction [3].

According to Kennedy [10], sharing as an economy is a significant thread in the literature related to the collaborative consumption and the participatory culture. Research has shown that social and hedonic reasons, as well as economic incentives could motivate a desire to share [3].

Organizations are active in different fields: the goods and skills exchange /experience/time sharing and content sharing. The sharing economy is a socio-technical system for the exchange of goods and services. Kennedy [10] & Acquier et al. [1] positioned the sharing economy as resting on three foundational cores: (1) Access economy which covers a set of initiatives, sharing underutilized assets (material resources or skills) to optimize their use (2) Platform economy as a set of initiatives that intermediate decentralized exchanges among peers through digital platforms and (3) Community-based economy which forms the third core of the sharing economy. This refers to initiative coordination through non-contractual, non-hierarchical or non-monetized forms of interaction (to perform work, participate in a project, or form exchange relationships).

An example of such sharing platforms is Airbnb. This platform allows hosts to let out their personal accommodation to strangers for a fee [3]. Fremstad [5] analysis highlights that the sharing platforms are used by young people as opposed to their senior counterparts. There is always a relationship between income and the use of sharing goods, such as Craigslist, Airbnb and Couchsurfing, Zipcar and RelayRides, and Citibike.

The richest households are sometimes more likely to be involved and sometimes less likely to use new institutions for sharing goods than poorer households. Thus, the future of sharing would probably depend on whether new platforms can appeal to higher-income people, or otherwise.

Across the world, governments are gearing up to respond to the economic shock of COVID-19. This pandemic has revived various forms of sharing economy to mitigate its economic impacts. We can mention here sharing food, helping by putting

cash into poor peoples pockets, sharing library content, as well as sharing educational and entertainment content for free.

3) *Social dimension*: McLaren and Agyeman [13] propose a new sharing paradigm, which surpasses the faddish sharing economy seen in such ventures; for instance, Uber and TaskRabbit. The aim is to envision sharing models that are not always commercial but sometimes communal. The aim of the mentioned model is to encourage collaboration and promote trust. We could see here how would sharing shift values and standards, foster civic engagement and political activism, in addition to the contribution for rebuilding sharing community resources.

According to Lutz, Newlands (2018), despite the economic benefit of sharing economy, the increase in academic focus on sharing and the sharing economy is concomitant with the sharing culture evolution.

Nowadays, there are several human dimensional projects. It is important to mention in this respect, participatory budgeting, public hearings for co-drafting local food policy, and community welfare projects; such as the European OpenCare project and the condo-caregiver initiative (see [2]).

As described earlier, COVID-19 outbreak and the global spread have had a significant impact on the mobility behavior of people, as well on the innovation drives through e-commerce promotion. Urban Sharing platforms and mobile technology are the main assets in this respect.

C. *Sharing economy in pandemic context*

Besides the spreading of human suffering worldwide with life losses and isolation, the socio-economic consequences of the COVID-19 outbreak will be tremendous. The disruption of trade and production, the destruction of the tourism industry and business travel in addition to domestic consumption decline are instances in this respect. Furthermore, the world is not prepared for such a health emergency (the estimated pandemic cost is \$570 billion per year [15]). In several cities around the world, the major economy resources are tourism. Thus, thousands of jobs including restricted or informal work (60% of the total labour is in the informal economy in [8]) can be lost and the income streams of the families would come to an end. This situation would represent a threat to the social balance of our society. The heavy task of politicians is to make fast and efficient decisions to reduce the negative impacts of the pandemic.

Instead of buying or owning products and then increasing demands on resources, the sharing economy strategy would have a positive effect on social, environmental and economic sustainability. Sharing would take various forms and dimensions, from sharing commodities, services or activities with individuals to sharing essentials with the state, the concept of sharing has multiple meanings and can make

a great change (see [13] for different aspects of sharing in cities). Sharing can offer a framework for local collaboration, for the well-being of all involved collaborators. Sharing can have an environmental impact through resources allocation optimization (see [7]), access to underutilized products and services, energy saving, in addition to CO2 emission decrease.

Sharing economy has also the potential to generate economic revenue [13] inside cities by gathering all the energy of local economic players and by facing monopoly and collusion (see [12]). With internet, sharing has become very useful for accessing goods and services, while reducing costs and augmenting the benefit for all. In addition, it can foster social cohesion by enhancing understanding through dialogue and strengthening trust in one another.

It is believed that the current pandemic is likely to change peoples way of life, work and interaction styles. This particular situation can be an opportunity for spreading peace and strengthening trust in one another. Thus, the concept of individual sharing has first to be understood by people. They should be convinced that solidarity is the key to overcome such an outbreak. Our future will depend on having people build different capacities. Therefore, access to education, healthcare or energy resources should be conceived as shared wealth. Individuals need to be also aware that any overconsumption can lead to resource depletion. The evolution of peoples behavior cannot happen overnight, it is the role of reliable information channels, social media and urban planners in local communities and the organizations to contribute in this area.

Swapping or bartering can be seen as a form of informal sharing, where individuals share their belongings; such as books, tools, services such as, childcare or ride Sharing. Skills are shared, in exchange, goods or services are offered. In the COVID19 pandemic context, if the protection protocols and principles are observed; i.e., social distancing, proper hygiene and large gatherings avoidance, the swapping or bartering would resolve important issues for individuals as well as for the community. Actually, goods or services are values that can be used to meet needs. To achieve this goal, individuals would be organized inside not-for-profit cooperatives. They can also create bartering markets and take up good actions for those who are suffering the most from this outbreak. Solidarity economy can operate in energy, health, food; education, etc ([13]). (see Fig. 2.)

Thus, solidarity actions taken by public and private establishments to provide an infrastructure and funding commitment to back up the government, hotel rooms have been made available to the staff of medical profession is a form of sharing. To help families regain dignity, similar actions would be taken for the benefit of those in precarious situations. (see for instance [9] for the policy to stop COVID 19 in poor urban informal settlements). It is also important in such a period of disease to optimize the

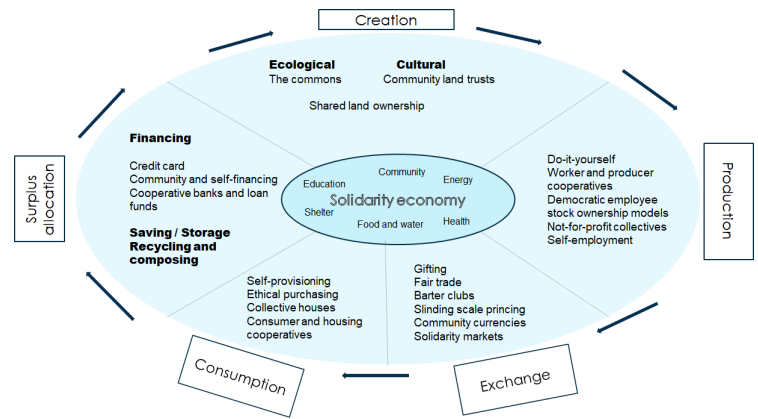


Fig. 2. Solidarity economy

production of goods and recognize the resources and needs of citizens. This can play an important role in reducing overproduction. The vendors and producers in a city have to develop a relationship with the citizens to be able to estimate the quantities to deliver. Ethical purchasing needs also encouraged by community leaders to avoid overconsumption -as we mentioned above- as well as its huge impact on our environment. The overconsumption of water, in particular , may compromise all efforts for the sustainability of hygiene.

Sharing economy can help countries avoid the disease worst scenario and the huge negative impact at the socioeconomic level. Financial support, however, is an issue to consider in order to create and consolidate urban networks. Community leaders need to be involved in setting up a framework where people are able to access goods, services and information, while the protocols to avoid virus transmission remain observed.

II. RECOMMENDATIONS

- Promoting economical activities in a pandemic context, sharing economy may play an important role. Thus legal aspects and safety protocols must be elaborated and made official as soon as possible to be and stay ready.
- Disseminate the benefits of sharing to the general public.
- Creating a national information portal dedicated to the sharing economy to provide suppliers, platforms and consumers with all the information on rights and obligations in the sharing economy.
- Developing and encouraging mobile phone-based money transfer service.
- Organizing the sharing economy in a representative entity in order to discuss the concerns of different actors.
- Guiding job seekers to sharing platforms through training in order to help them develop their experience and be able to earn money through this channel.

- Building trust between the provider and the consumer in terms of the fair price, the quality, the attractiveness and the functionality of the products on sale [6].
- Enhancing local sharing inside city/country instead of international sharing services.
- Strengthening data collection and research related to the impacts of the sharing economy on social and environmental issues.
- The engagement of companies, universities, governments, nonprofits, and individuals everywhere to work together on profitable projects related to the sharing economy in order to face a pandemic.
- Mobilising universities, introducing students to the sharing economy approach, and having them work in an innovative way on projects related sharing economy, which is likely to fight pandemics and reduce its negative impact on the economy.
- Promoting and setting up crowd-sourcing platforms for more creative content and make benefit of a better synergy in order to Fight the COVID-19.
- Enhancing access to the Internet is a necessity in order to spread the use of sharing economy in every field in the country.
- Initiating government programs encouraging entrepreneurship in the area of sharing through seed grants and economic benefits.

CONCLUSION

The unprecedented COVID19 pandemic is shaking the stability of the social and economic balance in the entire world. The sharing economy strategy while limiting physical contact among people, it is efficient approach in reducing the negative impact of this pandemic. The paper, then, contains a state of the art of the pandemic propagation per continent alongside with the reasons behind the emergence of the sharing economy. We made a study of the sharing economy impact in the pandemic context and we suggest recommendations for a cautious implementation.

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