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MASTER
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MASTER'S FINAL WORK
DISSERTATION

SHARING ECONOMY AND ITS DEVELOPMENT IN CHINA

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ABSTRACT

This dissertation provides new insights on the development of sharing economy in China. With firstly brief introduction of what sharing economy is and its emergence in China. I used annual panel data in China's sharing economy industry during the past few years. In all t it has experienced quite fast growth in the past few years, but some problems also arose and need to be appropriately treated. What's more, facing the outbreak of COVID-19, new changes have also occurred and are reshaping the industry and China's economy. in all, sharing economy still shows a great potential and some proposes are made to solve the existing problems to better achieve the sustainable development of the industry and China.

Keywords: Sharing economy; China Economy; Sustainable Development.

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1. INTRODUCTION

The sharing business model is formed under the background of globalization and information technology and has had a profound impact on our lives. It has experienced great changes and difficulties since entering China, realized the development of emerging industries and promoted employment and economic development. It is also significant in improving the efficiency of resource utilization and achieving sustainable development. It is vital to both China and the world today.

There have been many researches and reports about sharing economy, due to different internal and external environment, the development of sharing economy could be different. I took reference of both domestic scholars and those from abroad so as to draw experience from different countries and situations and added my observations and personal experiences gained from daily life.

In the following chapters, I will first make a brief introduction about what is sharing economy, what are its characteristics and what role it has played, especially in the perspective of sustainable development. In the second chapter, the case of China will be introduced, including the favourable conditions for its emerging in China, the general development history and the current situation, for example the results that have been achieved and the problems arisen, also, some roles it exercise in China that differs our case from that of other areas. Then in the following part some respective measures that might be helpful for solving the problems above mentioned will be put forward. And last, considering the outbreak of COVID-19, interaction between the pandemic and the industry, the great impact caused, as well as some prospects of the future development trend of it in China will be illustrated.

2. LITERATURE REVIEW

In recent years, the rapid development of the sharing economy has triggered tremendous changes in many aspects of the economy and society. It has also attracted the attention of many international and domestic scholars. Different scholars have presented their own discussions and opinions regarding its development status, including the positive significance and the problems it faces, and how to solve it.

In the book of Robin Chase, she focuses a lot on the role of the sharing economy in sustainable development. She proposed that through the repeated and innovative use of THE existing resources, new consumption habits can be shaped to transform and alleviate waste and insufficiency problems of natural resources. What's more, it was also pointed out by the author that the era of sharing economy has an amplifying effect on personal value and willingness, which can lead to more creation and innovation. Regarding the relationship between human and machine, he proposed that the consciousness of interdependent development rather than mutual substitution should be established.

In domestic, Zhang Jiaqi pointed out the fundamental role of Internet and information technology in the establishment and development of the sharing economy and in improving the efficiency of resource allocation. Through relevant government reports and documents, she introduced the three stages of the development of the sharing economy in China, and briefly analyzed the current problems facing China's sharing economy and its future integration with the real economy and the global development trend of China's sharing platform.

For Mo Yixian and Zhuang Lixian, they affirmed the huge development potential of the sharing economy. At the same time, they analyzed the existent risks in the development of China's sharing economy from the aspects of credit system, profit model, industry monopoly, and law. They pointedly put forward a variety of ways, involving system, government supervision, Internet technology, and industrial transformation, to promote the sustainable development of the sharing economy.

In *Sharing Economy from the Perspective of Public Management*, by introducing the concept of the sharing economy explained by the Internet Society of China and Robin Chase, the article enumerated the main applications and platforms of the sharing economy in daily life and illustrated one representative- shared bicycles' development situation and problems. Starting from the view of public governance, they put forward to achieve the benign development of shared bicycles through the united work of three main actors: government, enterprises and citizens, which could also provide reference and orientation for the development of the entire sharing economy industry.

3. WHAT IS SHARING ECONOMY

3.1 The concept of sharing economy

The term of "sharing economy" was first proposed in 1978 by two American sociology professors Marcus Felson and Joe L. Spaeth. It generally refers to the business model where the right to use goods transfer temporarily between individuals or agencies and is accompanied with certain pay.

The form of sharing has a long historical origin. As early as in the traditional society, people have begun to borrow from or give things to each other, sharing information or simply gossip. Even today, we see the preserve and evolution of these habits like hosting guests, which involves the share of food and accommodation, searching engines, like travel or leisure websites where we share our experiences and knowledge. Such behaviour was highly affected by geographic constraint and interpersonal relationships in the ancient times. But nowadays, with the information technology and globalization fastening the speed and enlarging the scope of development, the market system being more mature and complete, a business model is formed. It shifts from a communal act that can link people and create emotional bonds to one that has better efficiency and involves basically just economic exchanges.

The existence of the sharing economy is first based on the idleness and decentralization of social resources. In this economic activity, one party provides their idle resources and transfers its right to use to another party during a certain period of time, so that the idle resource can be circulated, and the provider is normally compensated with certain amount of money during this process. For the other party, he does not obtain the ownership of the product directly but can only use it through renting or lending. During the transaction process, it is often necessary the help of some third-party platforms. These platforms can integrate multiple resources and elements and help improving transaction efficiency.

In a larger scope, sharing economy could include the following three types:

First, shared products or services, such as the world known company with focus on accommodation: Airbnb; Blablacar, one that's widely used in Europe; Eatwith, which could provide authentic and magical dining experiences by allowing people like tourists to eat at a local's house, etc.

Second, recirculation of products. There are always some old things or extras that are not needed but it might also be a pity throw them away. Through second-hand goods trading websites, people can post sale and purchase information for free. Buyers can get the goods needed at rather low prices, and sellers can also get a certain amount of income. At the same time, it is also conducive to promoting the recycling of idle resources and reducing resource waste, realizing reduce, reuse, recycle, and repair.

Third, cooperative lifestyle, one common example is online group buying, such as discounted meals and drinks vouchers on weekdays, low price air tickets on certain dates and movie tickets in non-rush hours. They can also help protecting the rights and interests of the two parties involved in the transaction, like identity check system and as an intermediary for payment that could avoiding direct and instant payment from one to the other. Sharing economy can meet both the needs of the supply side and the demand side at the same time, maximize the utilization of goods, expand the interests of both parties, and change the resource allocation mechanism to achieve optimal allocation of resources. In general, sharing economy has quite large market value and development potential.

3.2 Characteristics of sharing economy

The sharing economy is a new type of economic model, it is formed and developed on the basis of the traditional economic model and driven by technological innovation. Compared with the traditional economy activities, sharing economy activities have a series of advantages, such as lower cost, lower threshold, lower pollution, higher efficiency, better experience and better credibility. From the perspective of economics, reducing and minimizing the transaction costs by institutionalization and organizational innovation is one of the indispensable conditions for the appearance and popularization of any new economic form. The Internet is the largest platform for sharing economy. In the past, due to high costs, many transactions are hard to realize. But nowadays, with the emergence and the general application of technologies like mobile Internet and big data in our daily lives, the asymmetry of information is greatly lowered and the availability of information is greatly promoted, resulting in reduction of the cost during the transaction process. The economic model of the sharing economy firmly exploited this advantage to the full and releases the value behind the excess capacity, like assets, time, expertise and creativity through the cooperation of the platform with other parties and efficient link up of supply and demand, making it possible the realization of many

potential transactions. In addition, with the help of various favourable factors such as policy support, the inflow of risk funds and the change of consumption concepts, thus rapid development has been achieved.

3.3 Significance of the sharing economy

The sharing economy model meets the requirements of sustainable development. With the ever-increasing growth of the world economy, the pursuits and desires of human being continue to expand, and what's followed are severe natural and environmental problems. The conflict between limited natural resources and unlimited human needs would not only lead to serious economic and social problems that endanger us mankind but would also threaten the survival of all species on the planet. Therefore, it is essential that we hold on to sustainable development. The sharing economy not only improves the utilization of resource by reusing and recycling commodities; it can also attract more companies to join in, actively innovating basing on market demands, thus improving the current situation of abundant waste and insufficient of resources in the world and help achieving sustainable development.

The sharing economy is also of great significance for improving human production and living standards. Sharing is conducive to the realization of the best distribution plan for products and their value. While activating a large number of stock products in the industrial era, it also changes people's consumption habits and raises the public's awareness of environmental protection, realizes the infinite recycling of existing limited resources. It can reduce the cost of living while improving the quality of life at the same time. The sharing economy is conducive to the development of emerging industries, it can provide rather equal employment opportunities for all, promoting employment and economic development.

4. DEVELOPMENT OF SHARING ECONOMY IN CHINA

Although sharing economy was originated from the United States, it has achieved quite amazing development in China. China's sharing economy ranks among the top in the world, whether in terms of scale, innovation, and influence. It affects people's economic life and values, and has a huge impact on production models, business models, technological innovation, consumption habits, and public services. In China, the concept of "sharing economy" was first put forward in the report of the

5th Plenary Session of the 18th CPC Central Committee and the proposal of the "13th Five-Year Plan". The first "China's Sharing Economy Development Report", released in February 2016, made the following definition for the sharing economy: "Sharing economy refers to the sum of economic activities that use modern information technologies such as the Internet to integrate and share massive amounts of decentralized idle resources to meet the diverse needs of people."¹ With the emergence of a large variety of new sharing economy models and formats, sharing among enterprises was established and became more and more. Under such context, the definition of the sharing economy also changed with time, which became the summation of economic activities that use modern information technologies such as the Internet to integrate massive and decentralized social resources to meet the diverse needs of mankind, and are characterized by the sharing of using rights. Through comparison, it is not difficult to find two differences, which are, resources for sharing are no longer limited to only idle resources and the sharing of using rights is further emphasized. The development of the sharing economy in China has undergone a gradual transformation from inception to growth and growth to a slowdown in growth. Shared bicycles, shared cars, etc. were first born, and then shared umbrellas and shared power banks were also put in restaurants, supermarkets, and airport train stations in major cities. Various forms of sharing activities have penetrated into the various industries and fields of people's lives. Everyone is not only a consumer, but also a producer, sharing the resources and information he owns through the Internet. Sharing education, sharing logistics, and even knowledge, connections, and time have become possible.

4.1 Development history and current situation

The rapid development of the sharing economy in China is mainly based on the following conditions. First, the population, consumption potential and economic scale of China is large, the space and prospect of development are broad. Second, although the total amount of natural resources is large, due to the great population, the per capita resources are relatively low and insufficient. Therefore, the reasonable and repeated use of resources accord with the basic requirements of China's practical conditions. Third, with the increase in the level of urbanization and the formation of the agglomeration

¹ China's Sharing Economy Development Report 2016

effect of population, supply side and demand side get more concentrated than ever before, which is also an important condition for the fast development of the sharing economy. Fourth, the reform and opening up and the increasing overall national strength have led to an increase in people's consumption levels and the popularization of Internet and intelligent devices, providing hardware support for the popularization of the sharing economy. In addition, as is said in the old saying, desires come up when one is fed and warm. With the continuous improvement of people's material living standards, the pursuit of entertainment and spiritual life also came along. The sharing economy provides platforms and products that can better satisfy people's material and cultural needs, enrich people's daily lives, and broaden people's social media channels, so it quickly won people's favour and has been widely propagated and spread after its appearance. Finally, China adheres to the development concept of "innovation, coordination, green-tech, open-minded, and mutual-share", with which the characteristics of the sharing economy coincide. The policy concept of encouraging innovation and prudential tolerance can create a good external environment for the development of the sharing economy. The continuous economic transformation, industrial upgrading and other pulling forces, technological innovation, the supply-side reform and the promotion of the concept of "mass entrepreneurship and innovation" have also brought about many new development opportunities for the sharing economy.

The domestic sharing economy started in the year of 2011 and achieved exponential growth in 2014 and 2015. As is mentioned in the previous part, the sharing economy in traditional sense is the recycling of surplus resources and idle resources. However, after years of development and changes in China, the social significance of the sharing economy has become more than that. It is no longer limited to idle resources of the individual but appeared a model in which supply sides such as companies purchased goods specially and provide them to the public for common use. Personal income is further expanded into corporate income and the sharing economy shifts from and individual platforms to ecologicalization and clustering.

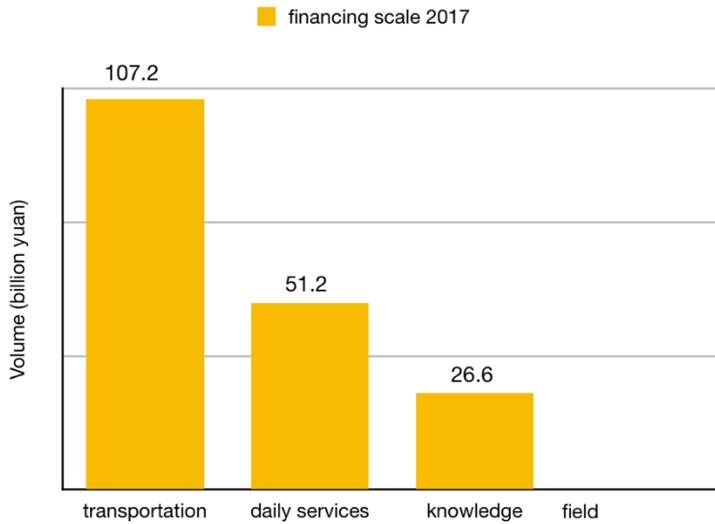
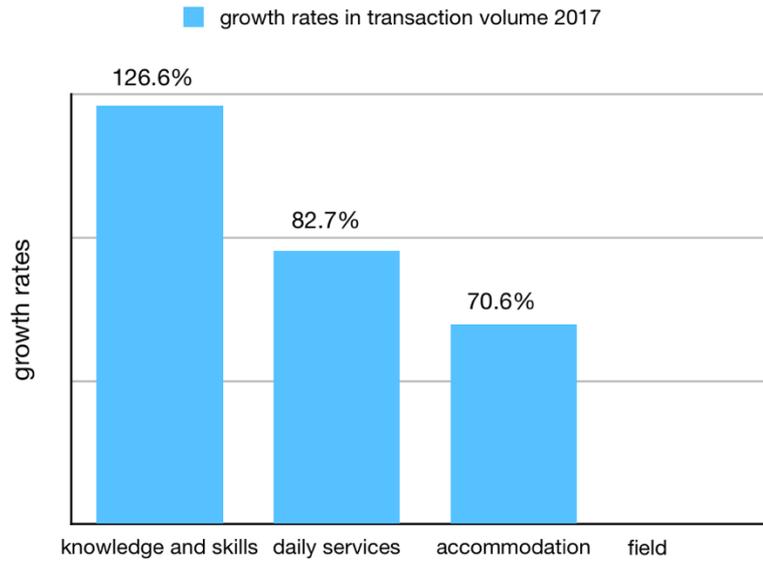
According to statistics, in 2016, the total number of users registered on sharing economy platforms in various fields in China reached 3.1 billion, and the estimated number of participants exceeds 500 million.¹ This year, the sharing economy grew up

¹ China's Sharing Economy Development Report 2016

quickly. Nearly half of the bicycle sharing companies were established and experienced rapid growth. In addition to shared bicycles, the fast expansion of car rental market also started this year, which includes business models like P2P rental and time-sharing rental, mostly based on new energy cars. In field of accommodation, as the tourism consumption and services upgrade in urban and rural areas, the consumption concepts of personalization become popular, shared accommodation during traveling has become a choice for more and more people. The personalized and vertical markets continue expanding, overseas accommodations, family accommodations, high-end accommodations, and sofa guests blossom in a radiant splendour. In the second-hand trading market, as idle resources of individuals continuously increase, the era of personal idle goods trading arrived. Among them, second-hand cars, second-hand mobile phones, second-hand maternal and infant products, second-hand clothes, and second-hand luxury goods have become the five most popular areas in second-hand transactions. The rise of the knowledge and education sharing has effectively reduced the cost of learning, speed up learning process and innovation. For example, derived forms like MOOC (abbreviation of Massive Open Online Courses) and live courses. Students can watch and learn the courses uploaded to the platform by outstanding teachers from the whole country and even all over the world, no longer restricted by schools and geographical conditions. From the aspect of geographical distribution, sharing economy companies have spread from cities such as Beijing and Shanghai to other first-tier cities, new first- and second-tier cities, with a greater coverage.

In 2017, the transaction volume of China's sharing economy market experienced an increase of 47.2% compared to the previous year. Among them, the three areas of knowledge and skills, daily services, and accommodation saw the fastest growth, with respective growth rates of 126.6%, 82.7% and 70.6%. In the investment and financing market, there are estimates indicate that the financing scale of China's sharing economy in 2017 was approximately 216 billion yuan, which increased 25.7% compared to that in 2016. Among them, the fields of transportation, daily services, and knowledge and skills rank among the top three, the financing scale being 107.2 billion yuan, 51.2 billion yuan and 26.6 billion yuan respectively.¹

¹statistics from https://www.askci.com/news/chanye/20180302/085520118896_2.shtml



As its scale continues to expand, the industry of sharing economy is constantly regulated and adjusted at the same time, moving towards a more refined direction. In the field of transportation, shared bicycles and online car rental rank first; for education sharing, traditional education K12 and language training classes featured by remote lecture of foreign teacher take the main share; social media development has gradually become the mainstream of content based entrepreneurship, especially live platforms and the internet celebrity economy, the enthusiasm for turning knowledge to actual money intensified, leading the era of pay for knowledge to arrive; medical sharing has shifted from pure online sharing and consulting to the combination of both online and offline, the internet hospitals have become more and more mature and with support of physical hospitals, patients do not necessarily have to go to the local hospitals, but can

simply make consultations and get prescriptions online, and waiting for the medicines to be delivered.

In 2019, the transaction volume is about 3282.8 billion yuan, experienced an increase of 11.6% compared with the previous year. The scale of direct financing is 71.4 billion. The average growth rate of the main sharing service industry income is far greater than that of the traditional service industry, for example, about 7 times in catering industry and about 6 times in field of accommodation. The popularizing rate of online car renting users among Internet users has increased from 32.3% to 47.4%, and the popularization rate of online takeout users has increased from 30% to more than 50%; the popularity rate of shared accommodation users has increased from 5% to nearly 10%; the popularization rate of shared medical users has increased from 14% to 21%.¹ In general, the scale of the sharing economy shows the tendency of continuing expansion, but the speed of growth has slowed down and the development is gradually slowing down. The development mode has changed, from the slavishly pursuit of speed and scale expansion in the early stage of development to more emphasis on improvement of quality and efficiency.

4.2 Role of sharing economy in China

4.2.1 Great significance in promoting employment and economic growth.

Employment is the foundation of people's livelihood. The sharing economy has spawned many new works and provided a large number of jobs. It is estimated that in 2019, the number of sharing economy participants in China's reaches as high as 800 million, and the number of employees on sharing economy platforms exceeds 70 million. The form of sharing economy is more flexible, it offers more employment elasticity, such characteristic allows people to obtain income through part-time jobs in their spare time and can greatly improve the public participation. For example, on the platforms Didi Travel and Chunyu Doctors, most people are part-time drivers or doctors. On taking out platforms such as Meituan delivery, anyone can apply to become a rider in accordance with the company's rules and process. On Airbnb, those who take rental housing as their main career share only a small proportion, most people are part-time landlords. In addition, based on the advantages of the platform itself in data, technology and other aspects, some platforms would also provide skill training or related guidance

¹ statistics from <http://www.sic.gov.cn/>

for individuals or businesses to help them adapt to the work and development faster and better, this can also reduce the threshold of mass employment at some level.

The sharing economy allows the strengthen of individual advantage and individual will. The sharing economy involves many fields. In sharing economic activities, the restrictions on age, experience, formal qualifications are more relaxed. People can take multiple jobs at the same time and choose what they want to do more quickly. As a result, the disadvantaged groups, and even those who are disabled, have gained more employment opportunities. The re-employment of workers in the field of overcapacity and the employment problems in poor/ less developed areas have also been alleviated. It has played a positive role in promoting inclusive economic growth and eliminating poverty.

In general, the sharing economy has reshaped the form of employment, employment has become more flexible and diverse, it has offered people with more part-time working opportunities, promoted the form of platform and individual collaboration and change from physical office working to online/ home office working.

4.2.2 Optimized the structure of service industry and conducive to sustainable development

The service industry is the main driving force of economic growth in China. In the first half of 2019, it contributes more than 60% to the national economic growth. The impact of sharing economy on promoting the transformation of service industry and improving economic structure is significant and is continually increasing. Generally speaking, the development of sharing economy can largely alleviate the pressure and side effects of economic slowdown and technological progress on people's employment. More enterprises and individuals can participate in the sharing economy and benefit from it. At the same time, the success of sharing economy in the field of transportation and traveling can expand the mode of sharing to other areas and further promote the development of the whole sharing industry. In face of China's current economic development stepping into the state of new normal, the economic growth changing from high-speed to medium high-speed growth, sharing economy is a powerful tool for breaking the bottleneck in development, creating a new driving force for economic growth, promoting entrepreneurship and innovation and supply side reform. It is of great significance for enhancing the country's ability and power in networks and

building a new competitive advantage of the country in the information age, bringing about many new development opportunities to China.

It also facilitated people's life and changed people's consumption habits, which is conducive to sustainable development at some degree. For example, in the field of shared bicycles, companies provide large number of bicycles especially for rental in public areas, such as subway stations, bus stops, residential areas, school parks and other specific areas with a lot of traffic. This kind of bicycle can be taken/borrowed and parked at any time in regulated parking areas, with greater flexibility in space and user threshold. It can largely cover places where cars and buses can't reach, provides both convenience and efficiency. As a result, a more environmental-friendly consumption habit is formed when more and more people choose to ride a bike instead of driving a car or call a cab. Besides, in field of shared cars, most of them are not gasoline powered but electricity powered cars. These are all quite helpful in easing the traffic jam and reduce air pollution and global warming problems caused by automobile exhaust. While in the meantime, some problems like the excessive number of bicycles put into the market, over occupation of public space, added administration difficulty cannot be ignored, but overall, there are more virtues than defects.

4.2.3 Typical cases of sharing economy in China

Didi Travel was founded in June 2012, and its predecessor was Didi Taxi. It provides a variety of traveling services, such as taxi, express, carpooling, car rental, self-driving, bike sharing, business bus and others. The total amount of registered drivers exceeds 20 million¹. Didi Travel makes full use of social resources, it highly integrates the transportation industry with the internet and makes intelligent traffic prediction and route planning relying on big data, providing users with an open, highly efficient and sustainable way of traveling.

The main service areas and contents of Didi Travel include the following: Express Service provide its users with a low-cost, fast and convenient online-calling taxi service; tailored taxi service aims to provide users with high-quality travel experience with high-end cars and better services, and the price of it is often a bit higher than that of express service. Carpooling service, including intra city and cross city services, is similar to the overseas platform Blablacar. It can calculate the route of different passengers and match

¹ <https://baike.baidu.com/item/滴滴出行/18596106?fr=aladdin#4>

those with high route similarity, so that they can travel together and share the fare, which can greatly reduce the travel cost of users. Chauffeur service allows professional drivers to provide driving services for private car owners under special occasion or emergency.

Shared accommodation: house sharing was first born in western countries. The house owner or the operators with house sources release their vacant rooms or houses and price information on online platforms, transfer the use rights of the room or house to renters who have travel, business trip or other residential needs during a certain period of time. By sharing accommodation, the idle space can be used to the larger extent, which can not only bring benefits to the owners, but also meet the renters' demand for autonomous and diversified accommodation. Customers could gain more opportunities to experience local life and experience local customs apart from regular sightseeing and entertainment. In China, online short-term renting is most typical and popular.

Compared with traditional hotel accommodation, shared accommodation also includes more diversified providers and service contents, it is also more flexible and convenient in location selection. Besides, the facilities and atmosphere of shared accommodation are often similar to the family living environment, so the customers can also get a sense of belonging as if were at home. In addition, they can establish social contact with the houseowners through share their life and travel experiences or can get information from the local's perspective, thus enjoying a travel experience more authentic. Financially, the price of shared accommodation is normally lower than that of hotels of the same level, which can reduce the expenses of tourists in accommodation, leaving them with more costs for shopping and eating, extending the during of their stay and thus leading to increase in the total consumption. In China the online short-term renting industry started around 2011. In the next year, the development of China's online short-term renting market accelerated. At present, the domestic housing short-term renting market in China is still in the initial exploration stage, with the trend of accelerated development.

There are two main forms of online short-term renting in China. One is C2C, short for Customer to Customer, which means trading activities and related service activities carried out in the form of electronic transactions on the Internet(following mentioned as e-commerce) between individuals. In this case the houseowner publishes the house

resource on the platform, and the renter make the order. The two parts are connected by the platform, realizing the whole accommodation transaction such as reservation, check-in and evaluation. One representative of such mode is Piggy short rental, which is similar to Airbnb. The purpose of Piggy short rental is to build a C2C online platform for direct communication and transaction between houseowners and customers. Its business scope includes short-term apartments renting, short-term house renting and ordinary residential buildings. Piggy short rental holds the concept of "accommodation full of humanity" and aims to establish a link between people. It seeks to optimizing and integrating offline short-term renting business, constantly improving technological and social environment, encouraging people to share their spare house resources, so as to provide accommodation choices with a more humanistic and family-liked atmosphere for tourists, students, patients and other travellers.

The other is B2C, abbreviation of Business-to-Consumer. It is a type of e-commerce activity carried out by enterprises for individuals, during this case the platform/ enterprise collects a large number of scattered house resources, make decoration and equip them with basic living facilities relatively unified and provide standardized management and offline services for consumers. One typical representative of this kind is Tujia. The house resources in this mode is often from real estate developers because they are usually more qualified and credible. In terms of service and management, business to customer house sharing is more similar to the traditional hotel, with special management and maintenance personnel, and also other value-added services such as house cleaning, so the price is usually higher than other short-term house renting platforms.

In addition to the general economic significance, the role of shared accommodation for special groups and backward areas is worth mentioning. That is, housing sharing can provide them with more opportunities to increase income for social groups who do not have work. For example, full-time housewives or retired people can obtain income through housing sharing. In rural areas, by combining housing sharing with "sightseeing agriculture" and "farmhouse traveling", it can not only bring considerable income to farmers, but also improve the relatively closed and backward state of rural areas, provided new ideas for building beautiful villages, eliminating poverty and realizing prosperity in China. It is conducive to promoting inclusive development.

In the "shared accommodation service specification" issued by National Information Center, it was clearly defined for the first time the terms of shared accommodation, platform enterprises, house owners and renters, and corresponding constraints and norms on the three main actors were made. These regulations are not only applicable to urban accommodation sharing, but also included the ones that scatter in rural areas. In view of the current industry development process and the hot issues of public concern, specific requirements such as community relationship in urban accommodation sharing, check-in identity examination and registration, house information verify mechanism, health service standards, user information protection system, blacklist sharing mechanism, the use of intelligent security equipment, etc. were put forward.

4.3 Achievements in credit protection

In recent years, the rapid development of China's sharing economy has called for urgent needs and higher requirements for credit protection. In this situation, China's government is paying more and more attention to the construction of social credit system, and platform enterprises and third-party credit service institutions are also actively involved in it. The credit construction and guarantee system led by the government and participated by various parts is gradually forming. In order to improve the users' experience and win in the market competition, the platform themselves are attaching more importance to self-governance. For example, most platforms have set up credit evaluation system to improve the authenticity and credibility of transactions by means of identity verification, face recognition, ID card, real name registered mobile phone number and bank card. A two-way scoring and evaluation mechanism has been generally established, both the source or service provider and the user can share their transaction process experience. The establishment of such a credit record can not only regulate and supervise the behavior of the two parties involved but can also provide references and function of prevention for future users. In the long term, it can regulate the industry behavior and make the unscrupulous businesses and users gradually screened and eliminated.

In addition, it is expected that insurance companies can cooperate with insurance companies in the process of unexpected transactions. Meituan, a food delivery platform, jointly launched a food safety insurance with Zhongan insurance. Some short-term renting platforms provide accident insurance during the accommodation for renters and

comprehensive family property insurance for house owners; bike sharing platforms compensate consumers for accidents and injuries happened during riding their bicycles. The credit-based deposit free mechanism has also been promoted and applied in some fields like bike sharing, it can effectively reduce the cost of participating in the sharing economy and can lower the potential risks brought by deposit payment and the threshold for users to participate in sharing. It has showed a good effect in improving public participation, improving and enhancing user experience, reducing illegal and irregular use and various debt behaviours. With the continuous improvement of social credit system, people will pay more attention to credit, and the binding effect of credit system will be further strengthened.

4.4. Problems arisen facing the development of the sharing economy

The current laws and regulations are relatively lagging behind, unable to provide a sound legal protection for the sharing economy industry. The main functions of laws and regulations lie in two aspects: regulation and protection. China's existing government policies still have a lot of restrictions on the sharing economy, which might limit its development. In addition, as a new ascending thing, the sharing economy has developed rapidly, and it is difficult for the laws and regulations to be revised and perfected timely to keep up with the innovation and development speed of the sharing economy industry. As a result, China's current laws and regulations cannot perform the best role in guiding and regulating the sharing economy industry. This not only brings about pressure and restrictions to the development of sharing economy, especially for small and medium size enterprises, but also give some bad enterprises the opportunity to take advantage of these legal loopholes to cheat and disturb the normal order of the sharing economy industry.

Apart from that, the sharing economy involves so many fields, with the characteristics of cross regional and cross industry that it is of great difficulty to monitor. Therefore, it may conflict with the existing industrial norms or regional regulations. Due to the wide range and huge workload, it is difficult to achieve a comprehensive review and supervision of the conditions, products or personnel that do not meet the requirements. It is also difficult to divide responsibility and pursue the accountable ones effectively so as to protect the rights and interests of users when financial problems arise and the sharing platform is at risk. For example, when the bike sharing enterprise goes bankrupt, many users cannot get their deposit back.

There are also potential information security hazards. The sharing economy is driven by data. In the new era, the sharing economy generally needs a certain platform (like APPs or websites) and needs the support of large quantities of public information. During the transaction process, the platform provides intermediary and guarantee services for its users. As is mentioned above, most platforms now require users to upload personal data such as name, ID number, bank card number, contact information, etc. In the process of using, it will even record and collect a large number of user activities, habits, preferences and other aspects of information. Therefore, if these sharing platform data leakage or malicious use, will bring security risks to the sharing users.

Besides, the social credit system not well established. A sound social credit system is the basis for the healthy and sustainable development of the sharing economy. Since the 1920s, the United States have begun to pay attention to the construction of social credit system, and its credit reporting system is already quite mature now. The whole society has also formed a good social credit protection mechanism and atmosphere. In contrast, although China has already entered the process of modernization, the credit system has not been fully established. The official credit system and credit institutions like banks and other institutions are not scientific and complete enough, and the credit information of informal lending, microfinance institutions and the third-party payment platform such as Ali group are rather scattered, and cannot form an effective restrain to dishonest behaviours of citizens due to the low price of such behaviours, and leads to people's question and worry about the safety of sharing economy.

Under the sharing economy mode in the new era, resource owners, resource users and platforms do not know each other, and to achieve its effective operation, mutual trust and cooperation on the basis of integrity is a vital premise. If one's in bad credit situation and he makes false report or deliberate concealment, no matter the interests of the participants or the long-term development of the platform enterprises would all be harmed. Although the sharing economy platforms as the intermediary can provide guarantee at some level, it is still difficult to regulate and constrain the users effectively. For example, when Mobike, a bike sharing company, first entered the market, it made the requirements that the users need to finish real name registration and pay a certain amount of money as deposit, but cases of users deliberately hiding or locking the bike with their private locks for their own use, destroying bike parts or QR codes were still

frequent, not to say regulating the users to park and place the bikes with order effectively. Such behaviours led to the over occupation of public space, disturbed the public order, and harmed the public's interest the image of the city. The disorder and excessive placement of bikes around shopping malls and subway station also caused traffic congestion. These all resulted in increased difficulty in city management that some cities have to pull off the release and use of shared bicycles. Therefore, it is very important to strengthen the construction of credit guarantee platform and establish a set of social credit system more complete, improving the security and reliability of sharing economy, allowing the network to operate under higher level of openness and transparency, making consumers and enterprises feel safer and establish a better sense of responsibility.

What's more, the implementation of sharing economy needs the support of a large amount of public data and key data related to personal credit. These data are generally held in the hands of relevant government departments and public institutions, making it rather difficult to access and cost being high; for enterprises, they are generally unwilling to disclose the company's asset operation status, production and sales status, staff size and technical level to the public. These have all in some degree affected the construction and improvement of the credit system and have restricted the development of the sharing economy in China.

4.5. Ways out of dilemma

4.5.1 Possible means: government + credit system

In order to solve the above mentioned problems, it is necessary to speed up the construction of laws and regulations related to the sharing economy industry, improve information security on sharing platforms and improve the social credit system, so as to promote the benign development of the sharing economy in the new era.

For the government, it needs to act in two aspects. That is, to give power to groups or platforms with needs and to regulate and defend the public's rights. He must actively promote the transformation of government functions, stimulating the vitality of the market, promoting consumption and transformation of economic structure. Faced with the new problems brought about by new things like "Internet+" and sharing economy, the government should draw on advantages and avoid disadvantages, adopting the principle of tolerant and prudent supervision. To speed up the construction of laws and

regulations of the sharing industry to increase the normative and guarantee role of laws and regulations on the sharing industry. On the one hand, enhancing the normative and guiding role of laws and regulations in the sharing economy industry. The relevant departments should pay close attention to the development trend of the industry of sharing economy, taking control on the macro level and regulate and guide the sharing industry timely to avoid the blind development or even illegal development of the sharing industry, and curb from the source the occurrence of chaotic phenomenon in the industry. On the other hand, strengthening the protection and guarantee effect of laws and regulations in industry of sharing economy. Relevant departments should issue more normative and clear laws and regulations as soon as possible and effectively provide guarantees for the orderly development of the sharing industry, while also safeguarding the users' legitimate rights and interests and avoiding the unnecessary suffer of economic loss.

To effectively solve the current situation of frequent information security problems, in addition to government regulations, the cooperation with sharing platform and platform users is also necessary.

First of all, the credit protection platform needs to be improved. The platform provider needs to fulfill its responsibility to effectively maintain information security. These responsibilities include continuously improving the technology of the platform, effectively protecting the information of platform users, and preventing related data and information from theft of hackers. The platform provider itself should establish good corporate ethics, he must not steal or collect the users' private data that is not related to platform services in violation of regulations. They must also pay attention to strengthening management at ordinary times, being alert to their own employees and be aware of cases where the staff violate regulations and leaks users' information to meet personal purposes and interests. From the perspective of platform users themselves, the prevention can be made from the origin by them strengthening their awareness of protecting personal information, establishing a concept of information security protection, thus reducing the probability of information leaking. Schools, society, the media, etc. can also educate and alert platform users through ways like publicity, case study and warnings, etc., helping the strengthening of users' awareness of protecting their own information security.

Second, we must accelerate the construction of a sound social credit system. A sound social credit system is the foundation for the sound development of the sharing economy industry. Measures to better promote the development of sharing industry's and further improve of the social information system can start from the following aspects. One is to further improve the credit management system. The current credit system is relatively weak in terms of network credit. It is necessary to further improve the network credit system, especially the regulation of network discredit, such as illegal fundraising and malicious default, so as to improve the overall credit management system and ensure the healthy development of the sharing industry. The second is to improve the credit penalty system, increase punishment to make sure that anyone that violates the rule is pursued. As for the government, it can work with relevant departments, jointly introduce a third-party evaluation agency, establishing a complete credit evaluation network that cover the providers, users, and the platforms in the industry. Take corresponding disciplinary measures, promote the formation of social integrity and the rapid establishment of integrity mechanisms through compulsory measures to consolidate existing results.

4.5.2 Success example of private credit investigation mechanism: Sesame Credit

Sesame Credit is an independent third-party credit investigation agency affiliated to Ant Financial. It uses cloud computing, machine learning and other technologies to comprehensively process and evaluate a large amount of information and data from various dimensions and tries to present the individual's credit status in an objective way. The evaluation and scoring of users by Sesame Credit mainly include the following aspects: the user's credit history, behaviour preference, ability to honour an agreement, identity traits, and personal connections. The data of credit score mainly comes from the historical data of Alibaba's e-commerce trading platform and the Internet financial data of Ant Financial. It also established the data cooperation with public institutions and partners such as Public Security Network.

Different from traditional credit investigation, Sesame Credit has a larger coverage, including credit card repayment, online shopping, money transfer, wealth management, water, electricity and gas payment, rental information, residence relocation history, social relations, and so on, analyzing the large number of online transaction and behavioural data to evaluate the users' credit, provides credit services for users and merchants in scenes like finance leasing, hotel, renting, traveling, marriage, student

services, public utility services, etc., which can help Internet finance companies draw conclusions on users' repayment willingness and ability and provide credit and instalment services accordingly.

Essentially, "Sesame Credit" is a credit information system that collects data from the government and financial systems, along with full analysis of users' behaviour records on platforms such as Taobao and Alipay. The credit evaluation only shows the scores directly and does not display specific content, so it can better protect the specific credit information and privacy of individuals. And anyone or any organization that wants to see the Sesame credit scores must first obtain the authorization of the user himself, so it's quite with guaranteed in security level.

5. SHARING ECONOMY UNDER COVID-19: CHALLENGE AND OPPORTUNITY

Driven by multiple factors such as policy support and released demand, the sharing economy has shown a tendency of steady and positive development. However, due to the outbreak of COVID-19 at the beginning of the year, the operation of macro economy and various industries of the national economy have been influenced. It has also severely impacted the sharing economy and many other new business forms.

5.1 The two-sided impact of the outbreak

For sharing economy, due to the different roles played by network platforms in different industrial activities, the sudden suspension of offline business activities led to different outcomes in different fields of sharing economy. Among them, the areas most affected are shared accommodation, shared transportation, and housekeeping services, because the completion of the entire transaction requires online and offline cooperation. Affected by the prevention and control measures, the demand for services on these platforms has dropped significantly. Both the number of order and revenue have dropped significantly, leading to serious financial losses. In terms of transportation, 36 cities across the country have completely suspended online car-hailing services, and 87 cities have imposed different degrees of restrictions on the operation of online car-hailing, such as cross-city and cross-regional services.

In terms of accommodation, many users have cancelled their rental orders due to the cancelation travel plans. In the field of life services, housekeeping, babysitting, etc., the changing and cancelation number of orders keep at high level. The platforms

quickly introduced adjustment plans and methods to protect and compensate users' rights and keep the clients, but a large economic loss is still inevitable. In addition, affected by factors such as traffic control and the growing risk of the outbreak, the return of migrant workers who have went back to their hometowns is impeded, leaving some platforms with the situation of shortage in personnel.

Although the outbreak of COVID-19 has had a relatively large negative impact on many sharing economy sectors, it also stimulated the demand in some sharing economy sectors. During the outbreak, under the situation which it is not suitable for people to go out and gather and offline activities are largely restricted, a large number of consumption and production activities are shifted to online platforms, leading to a surge in volume of users and transactions in the short term. For example, online shopping and local instant delivery services permit consumers to purchase the products they need for life easily, with as little contact with the outside world as possible. Therefore, enjoyed a groundswell of enthusiasm for a while and the sales was extremely well. For example, JD Daojia (one of the local retail platforms that provide consumers with home delivery services within an hour, selling products from supermarkets and stores including fresh fruits and vegetables, medicine and health products, flowers and cakes, etc.), Miss Fresh (an O2O e-commerce platform that provide fresh foods and products of their own store, covering various categories such as fruits and vegetables, seafood, meat, dairy, snacks, etc., through establishing a "urban sorting centre plus community distribution centre" in major cities, it can provide a cold chain delivery to customers in two hours.

In the field of education, affected by the postponement of back-to-school and suspension of offline training, many parents turned to seek for online education. Major platforms have also increased number and variety of courses and released a lot of education resources to take the opportunity and win a larger market share, such as free online live lessons, online homework counselling; DingTalk launched a home-learning plan, covered most of the provinces and cities across the country, permitting the students to take the lessons and do their schoolwork at home on schedule.

The outbreak has also given birth to many new models of sharing economy, which in turn made great contributions for fighting against COVID-19 and the recovery of economic growth. In terms of employment mode, retail, logistics, fresh food platforms, and catering companies have all launched different strategies for "employee sharing". Fresh e-commerce platforms such as Hema Fresh and 7FRESH have cooperated with

some large catering companies, allowing many unemployed persons of the restaurants to work temporarily in areas like assembly, order picking, and packaging for these fresh food platforms during the outbreak. Suning took another approach by launching a "talent sharing plan" to the society, aiming to recruit those who are temporarily unable to return to their original work during that time, doing tasks such as sorting and packaging in the warehouse or deliver packages in community. The plan adopts the principle of employment with flexibility and set posts in hundreds of express delivery points in dozens of cities across the country. After a series of procedures such as online interviews, skills training, and physical examinations, applicants can choose the nearest place to work according to their place of residence and personal intentions. The above-mentioned measures have effectively solved the income problem during the waiting period of the staff, alleviated the higher labour cost pressure faced by the cooperative enterprises in the situation of sharp decline in income, and supplemented the temporary shortage of manpower in related stores, and at the same time, it is important for the stabilization of employment. The contactless delivery is also a great progress practiced during the outbreak. Consumers can select contactless delivery or through way of leaving a message when making an order, making an agreement on the delivery time and location with the delivery staff and the goods will be placed in the designated location, the consumer can go and pick the products up himself after the staff leaves. During the entire transaction process, the two parties do not have direct physical contact, and it is conducive to minimizing contact between people, reducing the risk of virus transmission, and is of great significance to the prevention and control of COVID-19 at national level.

What's similar to contactless delivery is unmanned delivery. During the epidemic, JD Logistics provided transportation and distribution in the scope of one building and transportation and delivery in the last few kilometers. In Beijing, Meituan launched the unmanned delivery vehicle "Magic Bag" and put it into operation in many communities to provide delivery services for users who purchase orders on Meituan Maicai(which means buying vegetables). According to the official data of Meituan, the unmanned delivery vehicle can run 100 kilometers after one full charging, it can deliver goods with weight up to 100KG at a time and can deliver 3-5 orders each time.¹ Not only did these services reduce human contact, but their intelligent computing and planning and

¹ <http://www.myzaker.com/article/5e53e3c28e9f096da45a7647/>

distribution functions also greatly improved distribution efficiency. Apart from promoting the resumption of production and work vigorously, it is also very important for the long-term development of the company themselves.



"Magic Bag" of Meituan

In the shared medical field, many platforms launched free online consultations and new coronavirus knowledge popularization services, which attracted a large number of new users to register and the number of consultations has far exceeded the past. WeDoctor, Good Doctor, Ping'an Good Doctor, etc. have opened online consultation services to provide free services to the public with doctors from medical institutions across the country. These platforms have played an important role in helping people understand the dynamics of the epidemic, spreading relevant knowledge, and alleviating anxiety. According to the anti-epidemic needs, some companies urgently launched a medical material information resource sharing platform, efficiently connected and matched the demand for protective materials in medical institutions, raw materials for production of medical supplies and the supply demand of logistics resources and improved the ability of social emergency management. For example, a variety of medical robots have been put into operation in Wuhan Huoshenshan Hospital and other hospitals to assist medical staff in COVID-19 treatment and prevention work.

Generally speaking, although the outbreak caused a huge impact on China's economic development in the short term, due to the unification and cooperation of all parts with appropriate and effective measures adopted, the spread of COVID-19 effective controlled in a relatively short period of time, the impact is only temporary. In addition, under the background that the outbreak greatly impacted the economy and reduced people's income, people's need for saving money and the pursuit of convenience have become more prominent. And because of the advantage of the sharing economy in helping consumers reduce costs and improve convenience, more and more people have shift toward the consumption of shared goods and services. On the other hand, in order to increase income, more people are willing to become providers of shared goods and services, renting houses or vehicles, or even exchanging their knowledge. These are all positive influences for development in the long run. Therefore, as the situation gradually improves, consumption and production activities will gradually restore, economic development goes back on the track, new business formats such as the sharing economy will return to the previous state with prosperity and vitality.

After this time, the application of network technology in various fields will be further deepened, people's consumption habits will be further shaped, and shifting more to online platforms; second, as an important foundation for shared manufacturing, the development of the industrial Internet will face new opportunities. Promoting economic development while fighting the epidemic, objectively, such contradiction played a pushing effect on institutional innovation and are important opportunities for the further development of new business forms of the sharing economy in the future.

5.2 Development path after the epidemic

For enterprises, they need to enhance their strength at present to solve the problem in operation and survive the outbreak. In areas where demand is temporarily suppressed but with potential to recover and persistence existence in the long-term, platform enterprises need to think seriously about the possible means to seize the new opportunities brought about by the recovery or even rebound of the market after the epidemic ends as soon as possible; for those who experienced a short-term business surge due to limited offline activities, it is necessary to increase user stickiness and keep the advantage, converting the users who passively turn to the platform during the epidemic into stable users to realize continuous income, giving full play to the

advantages of technology and user accumulation, actively seek new market opportunities and explore new business models.

To promote the resumption of work and production in the sharing economy industry, in the short term, it is necessary to seek ways to control cost at the greatest extent and seek new sources of income. At present, both national and relevant local departments have successively rolled out some preferential policies, platform/enterprises should pay close attention to these policy changes and development, make full use of support policies and make respective adjustments basing on their own conditions. In the long run, for the sharing economy industry, on one hand, the outbreak has accelerated the pace of innovation in new formats and new models in the manufacturing sector, more companies are more aware of the importance of online and offline integrated development and the necessity of comprehensive digital transformation; on the other hand, most enterprises, especially small and medium-sized enterprises, are faced with greater survival and development pressure. Therefore, all enterprises, especially the ones of the traditional sectors, should value the importance of digitalization and platformization and improve the level of them in a comprehensive way.

The government should strengthen support and introduce targeted policies to help companies to help the enterprises overcome the difficult time, exploring and cultivating new formats and new models of sharing industry and find the new development momentum. Providing guidance and publicity, leading the small and medium-sized enterprises to actively participate in and make efficient use of the new sharing economy model to achieve digital transformation; exercise the advantages of large enterprise in capital and technology and its supporting and leading role to help achieve the integrated and common development of small, medium and large enterprises.

5.3 Prospects

Generally, the influence brought by the epidemic to sharing economy companies are short-term, whether the "shock" or "stimulation". The market demand and supply capacity are only constrained for the time being, but as the offline related industries gradually recover, platform-related businesses would also be able to get back to the track soon, or even enter a new development stage with acceleration. In the following year, reducing costs and increasing efficiency, increasing revenue and reducing

expenditure will become the focus of enterprise development; the transformation from blind pursuit of scale and speed to quality, service, safety, etc. will continue.

On the whole, facing the sluggish growth of the world economy, China's economy has also entered a new normal of slowing growth and is now experiencing a critical period of optimizing industrial structure, transforming development methods and speeding up the pace of innovation. These could all provide more opportunities and possibilities for the development of the sharing economy. In the next three years, China's sharing economy is expected to maintain an average annual growth rate of more than 30% and continue to play a positive role in promoting employment and economic growth. With the support of national policies, many sharing economy platforms will have more room for development and more diverse business models will be formed. Intelligent upgrading and innovation of products in the areas of shared travel, food delivery, group buying, online drug purchase, shared accommodation, and cultural tourism will further promote the transformation of living consumption to new ways. In the past, the sharing economy was mainly concentrated in daily life areas. Later, areas with slower development and less attention will be further developed, such as shared manufacturing and shared agriculture. The development direction will also extend from the consumer sector to the production sector, and the sharing of production capacity and manufacturing resources will become the new mainstream. The sharing economy will be further integrated with technological innovation and play a more important role in risk control service assessment and network security supervision. In general, the future prospects of the sharing economy are bright and broad.

6. CONCLUSION

The sharing economy is a product of the development of information technology and the development of human society. It can not only promote wealth accumulation, increase employment, and raise income levels, but is also of great significance for alleviating resource and environmental problems and achieving sustainable development. The sharing economy has experienced rapid development since its appearance in China, providing new momentum for society, promoting public employment, and promoting the recycling and efficient use of social resources. The sharing economy has also encountered many problems and challenges, such as

immature development and imperfect governance. However, it is inevitable for any new things the explosion of problems in the initial stage of development. In the future, with the establishment of a better social credit system, the improvement of user quality, the opening of public data, policy adjustments and institutional norms more complete, the sharing economy will usher a better development environment and moving in the direction of healthy development. Continuingly contribute to our economic development, social harmony and improvement of people's livelihood.

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