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Research on the Development Strategy of Shared Appliances under the Low Tide of China's Shared Economic

Yinqiu Yang *, Qiang Sun and Shi Ba

¹School of Art and Design, Bengbu University, Bengbu 233030, China;

*Corresponding author's e-mail: 419121349@qq.com

Abstract. In recent years, the sharing economy has not only become a new economic model that has received widespread attention, but also created enormous economic value. Many traditional industries have entered the sharing economy, including home appliance companies. However, under the business policy of gaining profits through manufacturing increments, many shared economic enterprises have encountered difficulties. Based on the resources of idle household appliances, targeting the huge second-hand home appliance market, based on big data, Internet of Things and block chain technologies, and propose feasible home appliance production technology improvement programs, it can become the main resource for shared home appliances. This paper establish a new shared appliance operation mode from a technical perspective, and provide reference to the horizontal development of home appliance enterprises and new enterprise positioning.

1. Introduction

The concept of the shared economy was first proposed in 1978 by Marcus Felson, a sociology professor at Texas State University, and Joel. Spaeth, a professor of sociology at the University of Illinois[1].The sharing economy is a different economic model. It generally refers to the main purpose of obtaining certain remuneration. The two sides of the transaction are between strangers, and there is a new economic model in which the right to use goods is temporarily transferred. A system for the direct exchange of goods and services.

Although the concept of the sharing economy has been around for a long time, it has been a prevailing economic phenomenon for nearly a decade. In the fall of 2008, Airbnb was introduced to the market as the world's first travel rental platform. In the ensuing decade, the sharing economy became a high-frequency hot word in people's lives. The sharing economy is not only attracting attention from the business, political, and academic circles, but also affecting people's lives.

According to the forecast of China's Annual Report on Shared Economic Development (2018), by 2025, the global shared economy market is expected to increase from US\$15 billion in 2015 to US\$335 billion. As of the end of 2017, the transaction volume of China's shared economic market was approximately 492.05 billion yuan, an increase of 47.2% over the previous year. Among them, the transaction volume in the non-financial sharing sector was 2,094.1 billion yuan, an increase of 66.8% over the previous year[2].

But time is up to 2018, China's sharing economy faced a huge crisis, and many shared companies had operational problems: Mobike bicycles were acquired, OFO shared bicycles dying, and the TOGO shared cars were frozen property. Everything has seriously weakened people's confidence in the sharing economy. There have been many voices in the society that are not optimistic about the sharing economy, and the sharing economy has fallen into a low tide.



2. The operating form and current status of China's shared home appliances

In the period of sharing the hot economy, sharing has also become the focus of the home appliance industry. During the period, there were a variety of shared appliances on the market, and the way they operate was different.

2.1. Shared TV

In the TV field, LeTV has launched a TV that can be shared: users do not need to pay for TV, but they need to pay for TV packages, watch TV bundled advertisements and programs, and purchase related products, so that users can gain revenue by participating in TV operations, and Return the user in a way that becomes a member of a particular service.

2.2. Shared washing machine

In the field of white electricity, a washing machine with laundry and drying functions has appeared in Shanghai, and users can use the washing machine by cash or mobile payment. But this public washing machine is no longer a new business model. In the early years, coin-operated washing machines were commonly used in collective dormitories and apartments. However, the way to convert coins into a payment method for scanning QR codes has not much changed in essence, and there is no qualitative improvement in technology and user experience.

2.3. Shared air conditioner

On August 8, 2018, a company in Shunde, Guangdong Province, first issued a shared air-conditioning public beta version. The shared air-conditioning system adopts the "deposit + on-time charging" mode. Each air-conditioning deposit is 3,000 yuan, which is charged at 1 yuan per hour. The electricity fee is paid by the user. Users can place orders through the mobile phone app. Lease shared air conditioning, and install and debug the enterprise. After the use expires, it will be removed and transported by the company.

At present, there are many different ways of operating shared appliances. Most of the shared home appliances are still the enterprises that retain the ownership of home appliances and lease their rights to use. However, the problems faced are concentrated on high operating costs and difficulties In profitability[3].

3. Research on the existing problems of leased shared appliances based on the concept of shared economy

From the perspective of shared resource objects, the ideal resource for sharing objects should be resources already being in the society as a whole, such as goods, labor, public facilities and so on. The existing shared resources of shared appliances are not social idle resources, but incremental resources. At the same time, sharing by renting also makes the sharing method became sole, which brings a series of problems.

3.1. The method of paying the deposit is not enough to restrain the leased user

In the lease-type sharing behavior, the item holder retains the ownership of the item and transfers the right to use the item. The user of the item obtains the right to use the item within a certain period of time by paying money or other benefits. In this way, the item holder revitalizes the idle item, and the item user's demand can be met by paying a small amount of money.

However, at the same time as the transfer of the right to use the item, the management of the item has also been transferred. In the process of using the item, it is inevitable that the item will be damaged. In order to cover the losses that may occur during the use of the goods, the user of the goods will usually be required to pay a certain amount of funds as a deposit to serve as a credit guarantee for the safety of the goods.

For items of lower value, a lower amount of deposit is acceptable to the item user. However, for shared items with higher value, the following problems exist: when the deposit is equal to or higher

than the value of the item itself, the willingness of the user to participate in the sharing behavior will decrease; the deposit is lower than or even lower than the value of the item itself, it loses the binding force on the user of the item and the protection of the item.

3.2. The company bears high management costs

The existing business entity of the shared economy is the enterprise, and the ownership of the shared goods is also in the enterprise. The timeshare lease amount for shared items is lower. Therefore, in order to obtain the income, the enterprise must hold a large number of shared items and ensure that the shared items can operate efficiently. This makes the shared enterprise become a real heavy asset enterprise, and the difficulty and cost of asset management are much increased.

Taking the OFO shared bicycle as an example, the public data shows that the manufacturing cost of an OFO shared bicycle is about 300 yuan [4], and its volume is more than 17 million. The huge amount brings great management difficulty and loss. The data shows that the OFO damage rate is up to 20-40%. According to this figure, the loss caused by OFO sharing bicycles is only 900-1.8 billion yuan due to damage[5].

3.3. Home appliances have high privacy

The home appliance itself is distinct from the shared items such as cars and bicycles. Its use place is fixed and its privacy attribute is strong, which is not suitable for public use. Moreover, the sanitary requirements of household appliances such as washing machines and refrigerators are equally high. Therefore, for shared washing machines in public places, time-consuming rental of air conditioners and other products, the market reaction is cold.

4. Ignored idle home appliance resource sharing mode: second-hand home appliance trading

In the home appliance market, another de facto sharing economy model is second-hand home appliance trading.

China's home appliance industry has participated in the third stage, which focuses on updating demand. There are fewer and fewer claims that "it must be bought" and "electric appliances are broken and replaced", and home appliances are changing from necessities to consumer electronics. The reasons for people to change their home appliances are more subjective factors such as "uncomfortable use", "outdated" and "not good-looking". There are even consumers who do not have a demand for use, but only because of the promotion and impulse consumption. The new consumer industry has produced a large number of old appliances that are in good condition or repairable.

According to "China's waste electrical and electronic products recycling and comprehensive utilization industry white paper 2017", in 2017 China's TV theory scrap amounted to 32.16 million units, refrigerator theoretical scrap amounted to 24.39 million units, washing machine theory scrap amounted to 16.2 million units, air conditioning The theoretical scrapped amount reached 27.23 million units. However, China's existing green recycling, dismantling and digestion capacity is less than 50% of the total amount of used household appliances[6]. More old appliances are once again flowing into the home appliance market. The number of idle home appliances is huge and the market potential is high.

However, the current second-hand appliance trading market still lacks effective supervision. Most of the second-hand home appliances are traded by C2C. Most of the old home appliances are purchased by SMEs and even individual operators, and then repaired and sold. There is no uniform maintenance and quality inspection standard throughout the entire process from acquisition to resale. The corresponding parts sales and purchases have also loose supervision, and the overall lack of effective regulatory mechanisms. This has significantly affected the quality of second-hand home appliances and reduced consumers' willingness to purchase.

The second-hand home appliance market has huge potential and development significance, but there are also many problems. Addressing these problems should be the driving point of the home appliance sharing economy.

5. The future development strategy of shared appliances: second-hand home appliance trading and light asset leasing system under big data monitoring

The home appliance industry is an important component of the social economy. In the future, sharing home appliances is the only way to reinvigorate the idle inventory of home appliances and promote the development and upgrading of the industry. In the future, shared home appliances should focus on upgrading and developing the second-hand home appliance sharing industry, and at the same time to establish a reasonable and feasible lease-type shared home appliance industry model. At the same time, before establishing a new type of shared home appliance industry, it is necessary in order to solve the following problems.

5.1. Establish new standards for home appliance production

At present, the core problem of the quality of second-hand home appliances is the lack of effective supervision means. Consumers do not have professional knowledge and skills. Pre-set monitoring modules on home appliances, use sensor technology to monitor and record the operation of electrical appliances, fault conditions, maintenance history. , accessories information, sales records and usage records, etc. This information is recorded by the server through the Internet system, and the home appliance can be effectively monitored, and the user can also obtain the information through the inquiry software. The pre-installed unified monitoring module as a standard for home appliance production enables all home appliances to be effectively monitored. For one thing, the quality of home appliances is transparent and open, and for another, relevant data records can be used as an important reference for maintenance. Figure 1. In the intelligent temperature control regulator introduced by Nest in the United States by 2015, this technology has been applied, and the technical foundation of the wide-scale promotion has matured.

After the user data are recorded, combined with big data and block chain technology, the home appliance monitoring module can be networked, and many new services can be provided to the user. With the rapid accumulation and continuous updating of user data, traditional home appliance enterprises will also acquire the second attribute of information enterprises and complete industrial upgrading.

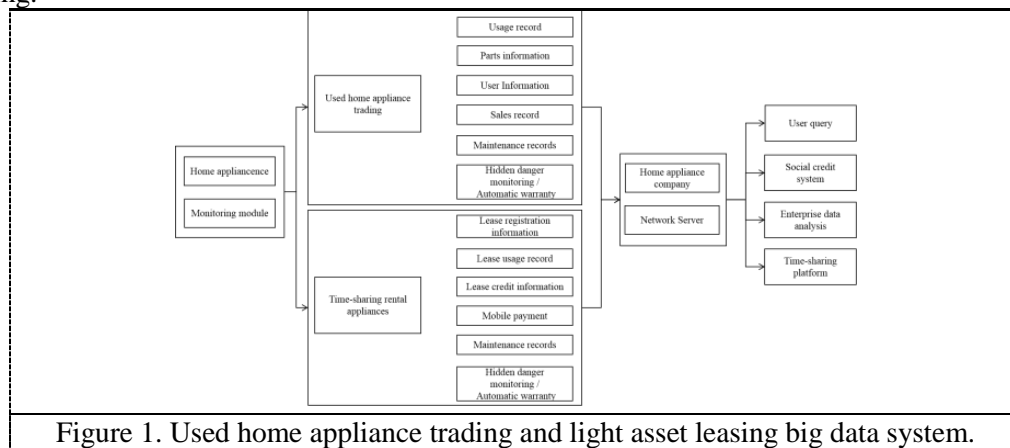


Figure 1. Used home appliance trading and light asset leasing big data system.

In the long run, the intelligent module is an essential accessory for home appliances, and the establishment of new home appliance production standards is also conducive to the establishment of the Internet of Things in the whole society, which will become an important part of the future intelligent society

5.2. Second-hand home appliance acquisitions and maintenance enterprise scale

When the product performance monitoring module becomes the electrical production standard, the standardized second-hand appliance repair and acquisition efficiency will be greatly improved, and the cost will be reduced. The conditions for establishing a unified second-hand home appliance purchase standard and the system will be mature: including quality standards and maintenance standards.

Relevant and pricing standards will be transparent and relevant, and relevant systems and processes will be standardized. It will become possible to create a large-scale second-hand home appliance acquisition and maintenance enterprise, and a large and standardized second-hand home appliance market will be established.

5.3. Improve relevant laws and regulations and social credit system

In addition to the transfer of ownership of the second-hand home appliance industry, collective housing, shared apartment and other public housing, shared apartment and other public housing space for public appliances rental is also an important part of shared appliances. The management of property rights of shared home appliances that only rent the right to use depends to a large extent on the user's consciousness and the norms of laws and regulations on users. This requires the establishment of viable technical monitoring tools and credit system specifications[7]. In addition to the relatively low deposit system, the strict and perfect credit reporting system has a considerable deterrent effect on violations, and serious violations of laws and regulations must bear corresponding legal responsibilities.

6. Conclusion

Although the sharing economy represented by industries such as shared bicycles has encountered a low tide in the moment, in the long run, the sharing economy still has good development prospects. From an economic point of view, the sharing economy is the only way to revitalize the stock of social resources. From a historical perspective, the sharing economy can promote the construction of a big data intelligent society and accelerate the integration of social information. The development of shared home appliances requires further investment, and identify the key points to solve fundamental problems.

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References

- [1] Felson M , Spaeth J L . Community Structure and Collaborative Consumption: A Routine Activity Approach[J]. American Behavioral Scientist, 1978, 21(4):23.
- [2] China's annual report on sharing economic development [M]. National Information Center Sharing Economic Research Center, China Internet Association Sharing Economic Work Committee.
- [3] Cheaa (2017) With the rise of home appliance rental and shared appliances, do you really buy it?.<http://news.cheaa.com/2017/0612/510263.shtml>.
- [4] Lao suji (2017) ow much is the manufacturing cost of shared bicycles? <http://news.cheaa.com/2017/0612/510263.shtml>.
- [5] Cai Hui , Zhong Jianting . (2017) Who is sharing the bicycle? "Radish + Big Stick" can save 1% damage rate. Southern Metropolis Daily.
- [6] China Waste Electrical and Electronic Products Recycling and Comprehensive Utilization Industry White Paper 2017(2018).China Household Electric Appliance Research Institute.
- [7] Cai Chaolin. (2017) The rise of the sharing economy and government regulatory innovation[J] South China Journal of Economics No.3, 2017.