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**ABSTRACT:** The outbreak of the 2020 epidemic has severely impacted traditional economic development. However, the digital economy is widely developed. This paper analyzes the demand side of elderly consumption behaviorin China from the characteristics and influencing factors. Based on the case studies of the major internet platforms, we further explore the current situation on the supply side. Finally, we discuss the problems and potentials and propose corresponding suggestions from four levels: consumers, market, society, and government. It is hoped that it can provide some reference value for the future development of the online consumption market for the elderly.

KEYWORDS -Digital Trade, Aging Population, Online Consumer Behavior

# I. INTRODUCTION

Chinese aging population is vast, with 260 million people aged 60 and above, according to the seventh Chinese population census. This brings about a considerable consumption market for the elderly. The Chinese Working Committee on Aging predicts that the consumption potential of the Chinese elderly population will grow to about 106trillion yuan in 2050. Furthermore, the outbreak of the COVID-19 pandemic in 2020 has, to a certain extent, driven the elderly to engage in online consumption. In this paper, we analyze the characteristics of online consumption of the elderly and the current situation starting from three major types of online consumption. Then, according to the existing problems, solutions are proposed.

# II. CHARACTERISTICS ANALYSIS

# 2.1 Significant increase

Data from two surveys conducted by China Internet Network Information Center(CNNIC)in March and June 2020 show that after just three months, the proportion of senior Internet users aged 60 and above rose from 6.7% to 10.3% of total internet users, with the number surging to 96 million.2020 Alibaba's Digital life of the Elderly Report shows that during the epidemic prevention and control period, China's 60+ The elderly group accelerated their adaptation to digital life, with the average monthly activity of seniors using the mobile Taobao APP in the third quarter growing much faster than other age groups year-on-year,29.7 percentage points higher than the overall level. In addition to shopping and spending on e-commerce sites, seniors also intervene in online consumption through software such as social entertainment and online payment.

#### 2.2Younger and fashionable

They are not necessarily willing to buy products with the "old" label but prefer to choose products with bright colors and a vibrant look. Olderpeople also like to buy beauty products, outdoor sports equipment, selfie sticks, cell phone cases, and other youthful products online. According to Jingdong statistics, in the first half of 2017, senior citizens' consumption of beauty products grew at an alarming rate of 8.5 times.4

# 2.3 Physical and spiritual needs

On the one hand, as the elderly are concerned about physical health and disease prevention and control, medical and health care products have become the most popular elderly goods; on the other hand, the elderly pursue a rich spiritual and cultural life, and according to the statistics of Jingdong 2019, in addition to the necessities of life, home construction, books, pet life, digital and other consumption accounts for a higher percentage.

# 2.4 Different regional characteristics

The development of elderly consumption shows a trend of gradually penetrating from first-tier and second-tier cities to third-tier and fourth-tier cities and rural areas. The proportion of sales of senior goods in first-tier and second-tier cities on the Jingdong platform showed a slight decline, while the proportion of sales from third-tier and fourth-tier cities and rural areas generally showed a growing trend, with relatively more significant growth in rural areas. The use of the Internet has a more substantial stimulating effect on the consumption of the rural elderly. Domestic brands still dominate the consumption of senior goods.

## III. INFLUENCE FACTORS

## 3.1 Individual

## 3.1.1 Consumer psychology

It refers to the psychological activities that occur when selecting, purchasing, using, and evaluating products, which combine with consumer needs and govern the purchasing behavior. In addition, with the gradual weakening of the social status, the elderly would be eager to communicate with others, eager to seek a sense of belonging to a group, a sense of identification, and willing to collaborate. This psychology has prompted more elderly people to social networking platforms on the Internet, seeking spiritual comfort and sharing information, laying the foundation for internet consumption.

The social internet platform is helpful for the elderly to learn what is happening around the world quickly, and by employing information acquisition and communication, they can play a role in social connection. As a result, their needs for gathering and communication can be satisfied (F. Huang and J. Hong, 2016). At the same time, online shopping platforms use this social media to start "circle marketing," which makes older people have more consumption demand.

# **3.1.2 Income**

Income is the main factor that affects the internet consumption of the elderly. According to some studies, income has a positive impact on the consumption level of the elderly population (Q. Yang and H. Zhang, 2014), and it is mainly based on current income. In China, with the expansion of middle-income households, more than 70% of the urban aging group are in the middle to high-income level, which has become the leading group of the elderly online consumption. At the same time, their income comes in different ways, 41% of them have income other than pension and salary, and 44% of them have financial products.

#### **3.1.3 Family**

Different purchasing habits of different families couldlead to different consumption behaviors. After retirement, the elderlyneed to besupported, which leads to their family status gradually weakening. The opinions of other family members often influence their consumption decisions, such as buying large household items and where to travel. Less independent decision-making will come out.

#### 3.1.4 Cultural

The traditional Chinese cultureadvocates more savings. Compared with western countries, Chinese people are much more conservative. A strong sense of worry, especially among the elderly, pays much attention to the accumulation of family assetsand generally results in low consumption and high savings (X. Yuan, 2021). Even for internet consumption, they prefer low prices online. Of course, it is also related to the education level. As people with higher education levels are less influenced by traditional consumption concepts, and more acceptable to new consumption behavior, while traditional savings more influence people with lower education levels.

#### 3.2 External factors

### 3.2.1 Customer experience

According to the 2020 online survey report on the consumption behavior of a sample of 600 elderly people, the vast majority are likely to give uponline consumption after a bad shopping experience.

## **3.2.2 Safety**

Security issues directly affect the consumption decisions of the elderly. The risks of payment and delivery and personal privacy leakage (B. Zhao and Y. Cheng, 2016) discourage the elderly from online consumption.

## IV. DIFFERENT TYPES OF ONLINE CONSUMPTION

According to F. Yang, Y. Pan and Y. Huang (2020), the types of consumption are classified into three types based on consumer needs.

# 4.1 Basic consumption

The basic type refers to the consumption expenditure mainly to meet the basic survival needs, such as clothing, food, housing, and transportation. That is, the online shopping platform and fresh e-commerce platform.

Taobao, Jingdong, and Pinduoduo, as domestic e-commerce giants, dominate the market in the elderly online consumer group. According to QuestMobile data, in May 2020, for example, the active penetration rates of seniors in the three major e-commerce shopping platforms were 42.3% for Taobao,14.8% for Jingdong, and 5.8% for Pinduoduo.

From the marketing means, Taobao in 2018, after the innovation of s simple version of the exclusive Taobao interface for the elderly, in 2020, again on the line of "saving version," the introduction of low-cost segmentation for the elderly. According to the high-frequency consumption of the elderly products, the platform launched 1 yuan,5 yuan, and 10 yuan subdivisions, and all come with a complete set of seven days of no reason to return + return shipping insurance services through the low price of quality and package to attract more elderly people to join the Internet consumption. In 2018, Jing dong launched the "Jing dong Piece purchase" (later renamed "Jing Xi"), using community operation means to sell low-priced white goods, similar to Jindo, both using "low-priced single, limited-time seconds similar to Jindo, they both use "low-priced collocation and limited-time seconds" to attract attention. The elderly group chooses Jingdong to consume because its self-operated logistics

arrive quickly, and after-sales returns or repairs are convenient, enhancing the sense of consumption experience. Moreover, the way Pinduoduo attracts senior customers is that it facilitates transactions through users' social sharing links, which is in line with the mentality that seniors are happy to get opinions from friends and relatives and like to consume in pairs.

From the perspective of product supply, the hot commodities of the three mainstream e-commerce platforms are as follows: Taobao hot food, footwear, household goods, and home textiles and department stores; Jingdong hot food, digital home appliances, household goods, etc.; Jindo hot household goods and home textiles and department stores, agricultural products, food, etc.

## 4.2Developmental consumption

Developmental refers to the elevated proportion of spending on purchasing services needed to meet basic survival needs in addition to consumer spending, including activities such as investment, healthcare, and socialization, corresponding to social payment platforms. In June 2019, the customized Alipay "Care Edition" for the elderly was launched, and the number of visits increased 6.6 percent times year-on-year. In March 2020, Alipay has set up a university for the elderly to educate the middle-aged and elderly and bring them closer to digital life.

Among the various services of Alipay, the most used services by seniors are finance, social, and payment. Alipay offers a variety of financial management options, including wealth management, funds, and personal consumer loans. The increase in Alipay senior users is also due to the existence of the social public welfare section. This is a way for the elderly group to find their self-worth. Elderly users plant trees, save eggs, donate love for public welfare on Alipay, participate in social activities through this social welfare, satisfy social desires, realize their spiritual pursuit, and also enhance the viscosity of Alipay elderly users.

During the epidemic, Alipay launched the health code to realize digital accurate epidemic prevention and attract more users to use Alipay App. Furthermore, Alipay's concern for the elderly is also reflected in the provision of mutual help platform, the elderly version of mutual treasure for 60-70-year-olds to provide the opportunity to apply for mutual funds to reduce the pressure of major medical diseases as possible. Thus, the diversion between users can be achieved, and more elderly people can join the Internet platform.

#### 4.3 Enjoyment-oriented consumption

Enjoyable expenditure refers to the consumption expenditure of higher quality and diversified goods based on the basic and developmental consumption structure corresponding to the travel service platform. The following is an analysis of "ctrip" as an example. 2019 ctrip released the "Report on Travel Behavior of the Elderly croup," which shows that two-thirds of the elderly travel 3 to 5 times a year, and the proportion of the elderly in the county who travel 3-5 times a year is 42.6%, which is

comparable to that in the Beijing, Shanghai, Guangzhou, and Shenzhen. Furthermore, the proportion of seniors who travel multiple times a year is expected to increase further.

In terms of profit model, Ctrip cooperates with many hotels and airlines at home and abroad to reduce procurement costs from upstream by purchasing on a large scale, and at the same time accumulates growing traffic through downstream consumers booking rooms and air tickets on the website with the increase in traffic, the stronger Ctrip's bargaining power with hotels and airlines, the lower its costs will be, which will eventually lead to a healthy profit model.

Ctrip's integrated online and offline model increases the trust of senior citizens in Internet consumption, and its personalized programs also meet the different consumption motivations of senior

citizens. For example, Ctrip has launched a series of products called "Travel with Confidence for Mom and Dad," targeting senior users with precise marketing in accommodation, food and beverage, and entertainment. Travel is a positive compensatory consumption activity for senior citizens, who participate in travel activities for different motives such as socializing, broadening their horizons, and releasing their emotions to enhance their well-being.

#### V. PROBLEMS

At present, the imbalance between supply and demand is the biggest problem in the Chinese online consumer market for the elderly. However, changes in the supply curve or demand curve are influenced by factors other than consumers' problems, market (merchant) factors, and other factors, which result in a problematic equilibrium state of the supply and demand curve.

#### 4.1 Consumer issues

Online consumption by older adults is influenced by factors such as physical health education level, perception of aging, disposable income, family structure, and social network participation.

Older people's physiological functions are gradually declining, and their ability to learn independently and prevent risks is poor. False propaganda, transaction records, privacy protection, and payment security issues in online consumption are often the biggest concerns of older people s consumption. In addition, the Ali Research Institute survey found that the number of seniors who give up consumption due to the complexity of online platform operation is as high as 50%. Therefore, merchants need to provide services to reduce the complexity of platform consumption, handle consumer issues properly, and provide a smooth contact method (A. Parasuraman, V. Zeithaml and A. Malhotra, 2005; M. Hsieh and W. Tsao, 2014).

# 4.2 Market problems

The demand for elderly online consumption in China has increased dramatically. Yet, the supply of age-appropriate products on online platforms is insufficient, with a single supply of products and a small variety and quantity of products, which is the main problem faced by the elderly online consumption market.

#### 4.3 Social issues

The awareness of consumer rights and interests of the elderly in online consumption is relatively weak, which will encourage the evil deeds of unscrupulous merchants. As many platform merchants are in the exploration and development period, the government should strengthen the management and supervision of the elderly online consumer market and open a green channel to provide convenience for the elderly to protect their rights.

## VI. SUGGESTIONS

#### **5.1 Consumers**

Active aging refers to the idea that the elderly gives up passively and passively accepting old age but actively participate in social activities and use their skills and experience to contribute more to society according to their situation (J. Li and L. Xie,2017). Therefore, when facing the elderly, people should respect the differences and unique characteristics of the elderly, help the elderly abandon the concept of "old but useless," continue to actively and moderately participate in social activities, improve their sense of self-efficacy of the elderly, and stimulate the elderly's concept of independent consumption for moderate consumption, which will be conducive to their enjoyment of life in old age.

#### 5.2 Market

## **5.2.1Increase Product Supply**

Market according to the different characteristics of the elderly users, precise product positioning, find the unique point of interest of the product itself, the difference reflects the function, quality, price and other elements, to provide the elderly with "no compromise" quality of life.

# 5.2.2BetterAfter-sales Service

The platform's high-quality after-sales service can improve the repurchase rate of elderly consumers. First, it is recommended to establish a more convenient and exclusive channel to defend the rights of senior citizens with high credit ratings, reduce intelligent responses from robot customer service, and contact senior citizens through human customer service as much as possible to provide direct after-sales service for them. Secondly, companies should differentiate more carefully in the offline after-sales service for the elderly and provide them convenience. Finally, merchants should establish a sense of corporate social responsibility in order to provide honest services.

#### 5.3Social Level

Some institutions in the society offer smartphone training courses to teach seniors smartphone functions such as online chatting, code payment, online registration, and using health codes. However, training for the elderly on online consumption is still unheard of. Such training will essentially solve the problem of operational barriers to online consumption for the elderly. Secondly, we should increase the training of elderly consumers' awareness of their rights and speak out for their consumer rights.

#### 5.4 Government

The E-Commerce Law, which has been implemented on January 1, 2019, and the supervision and Administration of Internet Transactions, which has been implemented on May 1, 2021, provide legal protection for online consumption by the elderly. However, government departments must still strengthen their supervision and should protect the consumption rights of the elderly in all aspects, including production, distribution, sales, and after-sale. Thus, the trust of the elderly in online consumption will be enhanced.

#### VII. CONCLUSION

Under the wave of aging and the rapid development of digital trade, the online consumption market of Chinese elderly people has colossal potential and presents different characteristics. For example, online consumption by the elderly is influenced by factors such as physical health, education level, aging concept, disposable income, family structure, and social network participation.

In response to the problems in the elderly consumer market, firstly, elderly consumers should establish an active retirement mentality, consume moderately according to their consumption capacity, and improve their quality of life in old age. Secondly, enterprises should enhance their sense of social responsibility, clarify the differentiated positioning of products according to the characteristics of the elderly group, enrich the product range, improve the quality of products and services, attach importance to after-sales service, and increase the repurchase rate. Once again, social media and government should also take up the corresponding responsibilities, create a good business environment and consumption environment, and help enterprises further to expand the online consumption market for the elderly; according to the relevant laws and regulations, there must be compliance with the law, strict law enforcement, and mutual collaboration, in order to jointly promote China's economic development.

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