

Chinese Consumers' Online Shopping Behavior and the Impact of Economic Growth

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Abstract: Over the past 40 years, China's digital transformation, driven by the Internet and mobile devices, has reshaped consumption patterns, making online shopping a key economic growth driver. This paper first analyzes the needs and characteristics of Chinese consumers in online shopping behavior. Then, through empirical analysis, we study the effects of price, logistics speed and income on online shopping behavior. Secondly, this paper discusses the impact of e-commerce on the traditional retail industry and its countermeasures. With its price advantage, rich product selection and 24-hour service, e-commerce has had a significant impact on the traditional retail industry. The traditional retail industry needs strategic adjustment and transformation to adapt to the new market environment and consumer demand. Finally, this paper discusses the impact of online shopping on economic growth, increasing consumption and expanding domestic demand from the perspective of consumers, promoting urban economy from the perspective of sellers, and promoting the overall development of regional urban economy from the perspective of logistics companies, and puts forward policy recommendations to support the sustainable development of e-commerce

Keywords: online shopping, economic growth, consumer behavior, policy suggestions.

1. Introduction

Over the past 40 years of reform and opening up, China has experienced tremendous changes, especially the advent of the Internet information age, which has profoundly changed people's consumption patterns. With the popularization of the Internet and the low price of mobile terminal equipment, more and more people tend to shop online[1]. This convenient and fast way of consumption is widely welcomed by the public, which not only promotes the development of e-commerce, but also makes it a new economic growth point favored by consumers. In particular, the outbreak of the epidemic has promoted the vigorous development of online shopping. As can be seen from Figure 1, the online retail sales data from February 2018 to December 2023 showed a significant growth trend. Overall, the data fluctuated from 6,000 to 8,000 at the beginning to more than 14,000 at the end of 2023(citation). This trend shows that the online shopping market is constantly expanding, whether it is the improvement of consumption power or the increase of online shopping penetration. In particular, retail sales at the end of the year and the beginning of the year are high, while some months, such as February (usually the month of the Spring Festival), are relatively low. It is also observed that emergencies have a direct and rapid impact on online retail sales, such as the epidemic in 2020, making online shopping gradually become one of the mainstream consumption methods and

maintaining a long-term growth trend. Therefore, this paper mainly explores the online shopping behavior of Chinese consumers and its impact on economic growth.

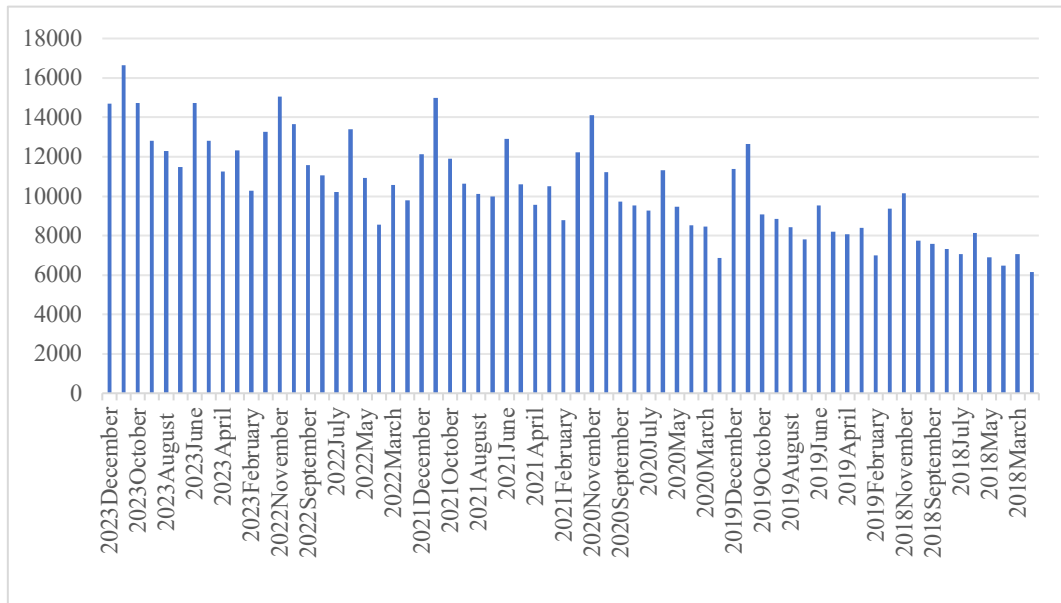


Figure 1: Monthly online sales of Chinese consumers, 2018-2023

2. Types of consumer purchases and their behavior

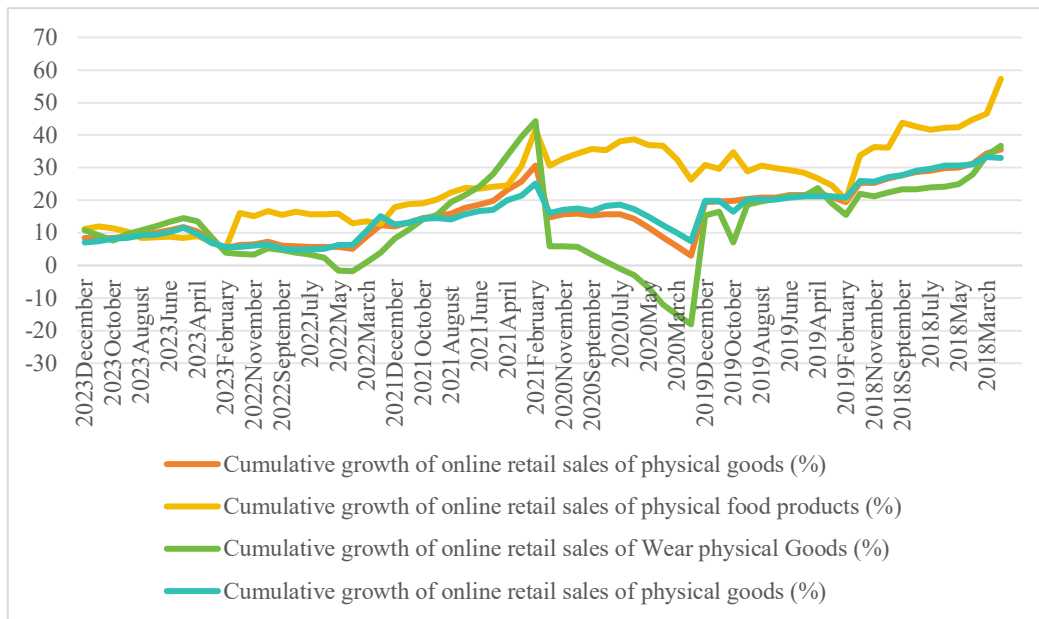


Figure 2: Online sales by product category, 2018-2023

2.1. The characteristics of different types

2.1.1. Eating physical goods

The growth rate is relatively stable, although sometimes there are small fluctuations, but generally maintain a high growth rate. The growth in the early period (2018-2020) was higher than in the later

period, especially in 2023 and 2024, where the growth rate slowed significantly. However, it is still relatively high, reflecting the strong demand for food products in online retail.

2.1.2. Wear physical goods

The growth rate is highly volatile, especially in the period from 2020 to 2022, the growth has slowed down, and even negative growth, which may be affected by market saturation and changes in consumer behavior. In recent years (after 2023), the growth rate has picked up, indicating that online sales of clothing items are gradually recovering.

2.1.3. Use of physical goods

The growth rate is relatively stable, with little fluctuation, but there is a slowing trend in recent years. Data show that the sales volume of commodities on e-commerce platforms continues to grow, but the growth rate is gradually leveling off. With seasonal and cyclical trends, November and December of each year usually see significant sales peaks, which are closely related to promotional activities such as Double Eleven and Double Twelve. January and February of the New Year are typically slower growth months, which may be related to less spending during the Lunar New Year period.

2.2. Consumer behavior pattern

2.2.1. Cheap psychology

Consumers think that the price of online shopping may be lower than that of physical stores, because they think that online sales have no costs such as site fees, counter rental fees and labor costs of physical stores, so it should be cheaper than physical stores.

2.2.2. Convenience requirements

Consumers want to be able to shop online at any time 24 hours a day, because some consumers get off work late and have free time more than 10 p.m., while physical stores have closed. In addition, they want to browse products through mobile apps at any time due to the popularity and portability of smartphones.

2.2.3. Personalized consumption

Consumers want to buy goods from all over the country and abroad through online shopping to meet their aesthetic needs. In addition, they pursue personalized design and exclusive customization of goods, so that they can freely buy goods that meet their needs, such as a specific brand, style or size.

2.2.4. After-sales service requirements

Consumers expect online sellers to provide fast logistics services, seven days of no reason to return and other services, in order to solve the problem of returns due to impulse purchases, goods not expected, or logistics damage caused by problems[2].

3. Empirical analysis

In order to demonstrate the influence of other factors on consumers' online shopping behavior, this paper selects consumer price index x_1 , the e-commerce logistics index x_2 , and per capita disposable income x_3 as independent variables, respectively as the impact of price, logistics speed and income

on online sales, so as to analyze the impact on online shopping behavior. Table 1 shows the maximum, minimum, standard deviation and average values of these four values from 2018 to 2023.

$$\text{measurement mode: } Y = -541.491x_1 + 256.090x_2 + 6.110x_3$$

Table 1: descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
Online retail sales	65	10383.01	2458.685	6135.65	16655.9
Consumer Price Index (last month =100)	65	100.0708	0.497407	98.8	101.2
E-commerce logistics Index	65	109.6031	3.065023	96.6	114.2
Per capita disposable income	65	2806.777	314.2268	2352.333	3268.167

Table 2: analysis of regression

		(1)
		Online retail sales
Consumer Price Index (last month =100)		-541.491 (-1.381)
E-commerce logistics Index		256.090*** (3.940)
Per capita disposable income		6.110*** (9.537)
_cons		1.9e+04 (0.477)
<i>N</i>		65
<i>R</i> ²		0.625

t statistics in parentheses
 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The results show that e-commerce logistics index and per capita disposable income have a significant positive impact on online retail sales. From the table 2 ,every 1 unit increase of e-commerce logistics index will increase online retail sales by about 25.609 billion yuan, and every 1 yuan increase in per capita disposable income will increase online retail sales by about 611 million yuan. The regression coefficient of consumer price index to online retail sales is -541.491. The R^2 of the model is 0.625, indicating that the model has a certain explanatory power.

Therefore, the growth of logistics speed and income can promote the online shopping behavior of consumers, but the growth of consumer price index, that is, the price of goods, can inhibit the online shopping behavior.

3.1. The impact of online shopping on traditional retail

With its own unique advantages, such as low prices, 24-hour operation and a wide range of goods, e-commerce has attracted a large number of consumers and is in direct competition with traditional retail. With the support of information technology, e-commerce has further enhanced its competitiveness, for example, the sales of large e-commerce platforms such as Tmall supermarket, Suning Tesco and Jingdong Mall have surpassed many traditional supermarket chains, which has caused a significant impact on it.

Specifically, e-commerce has had varying degrees of impact on traditional retail in different sectors. Clothing, snacks, books and other industries have been significantly affected, while gold, jewelry and high-end cosmetics industries have been relatively less affected. According to the data in 2015, online shopping for clothing, shoes and hats accounted for about 79.7%, daily necessities and books, and audio and video products accounted for 63.2% and 44.8%, respectively.

From the perspective of market scale and competition, China's e-commerce market has shown an amazing growth rate since 2006. From 25.8 billion yuan in 2006, online shopping accounted for only 0.33% of the retail industry, to 10.26% of the total retail sales of social consumer goods in 2015. This trend shows that the gap between the market size of e-commerce and traditional retail is gradually narrowing, and the competition is becoming increasingly fierce.

In recent years, with the rapid promotion of e-commerce in our country, its customer base has also increased, expanding from big cities to small and medium-sized cities and even rural areas. As of June 2015, the number of Internet users in China has reached 668 million, and the number of mobile Internet users is 594 million, of which 270 million are mobile online shoppers. The total number of Internet users is close to half of the country's population, of which students account for the highest proportion, 24.6%; The total number of managers and general staff in enterprises and companies reached 16.3%[3]. These high-value groups are gradually turning to e-commerce, which causes the traditional supermarket's customer base to continue to lose, and retail performance has declined.

The advent of e-commerce has significantly affected the traditional retail sector by offering competitive pricing, an extensive range of products, and uninterrupted service availability. The influence of e-commerce is evident in the evolving market size, intensifying competition, and the shifting preferences of high-end customer segments. In light of these developments, the traditional retail industry must strategically adapt and transform its practices to remain competitive in the evolving market landscape and effectively cater to contemporary consumer expectations.

3.2. Coping strategies

With the advancement of China's industrialization and urbanization process, the pace of urban life has accelerated, and online shopping has become the choice of more and more consumers with its convenience and diversity. In particular, the post-80s and post-90s have become the main force of online shopping, and they accept new things quickly and lead the market trend, representing the consumption power of the next 20 years. Therefore, the traditional retail industry must actively embrace the Internet and deploy e-commerce channels as soon as possible in order to gain sustained competitiveness. For some products with a high degree of standardization, such as books, low-end department stores, 3C home appliances, etc., it will be difficult to survive without e-commerce channels.

The successful cases in the e-commerce "Double 11" event show that online sales have seriously affected the market share of traditional retailers. To counter this onslaught, especially for mid-to-low end department stores, several key strategies are recommended. The first is to gradually change the existing product differentiation strategy to achieve offline new products and online shelves. This measure can not only meet consumers' immediate demand for new products, but also effectively

manage inventory and improve sales efficiency. The second is to achieve online and offline inventory, so that customers can easily query and place orders. If the online goods are sold out, but there is still inventory in the physical store, then it can be directly delivered to the customer through the physical store, which not only improves the inventory utilization, but also enhances the customer experience. Finally, the advantage of the wide distribution of stores is that it supports the direct delivery of online orders in stores and provides customer pick-up services. These measures can not only adapt to the changing needs of consumers, but also effectively enhance their own competitiveness[4].

4. Further discussion

4.1. The impact of online shopping on economic growth

4.1.1. Consumers -- Increase consumption and expand domestic demand

According to the 35th Statistical Report on the Development of Internet in China released by China Internet Network Information Center, as of December 2014, the number of online shopping users in China reached 361 million, of which 236 million were mobile shopping users, with a growth rate of 63.5%. Such a huge consumer group makes online shopping play an important role in stimulating domestic demand and accelerating the transformation of economic growth mode. In the future, China's economic growth will mainly rely on domestic demand. Per capita income will double by 2020, but if the savings rate remains high and consumption is insufficient, it will not be conducive to healthy economic development.

Online shopping effectively activates consumer demand and promotes the growth of domestic demand through e-commerce holiday promotions and other means. The convenience, richness and diversity of this shopping method make it a new growth point of commercial circulation in the future, and the interaction space with economic development is very broad.

4.1.2. Sellers - Analyzing the impact of online shopping on urban economy from the perspective of output

Based on the data of Taobao's entire network in December 2014, the number and ranking of products fully reflect the law of Ziv. As a highly market-oriented platform, Taobao has naturally formed a spatial agglomeration phenomenon. This means that the impact of online shopping on cities varies, with the highest density of goods in the eastern coastal areas such as the Yangtze River Triangle and the Pearl River Triangle.

However, this spatial agglomeration does not fully reflect the true extent of the impact of online shopping on cities. Therefore, using the "Taobao index /GDP index" to analyze, this study can find a new rule: although the high density is still concentrated in the eastern coast, it is not completely consistent with the original Taobao index distribution[5]. For example, the influence of Beijing is greatly reduced, while the center of influence of the Yangtze Triangle moves southward to south-central Zhejiang, and the influence of the Pearl River Triangle extends to the coastal areas of Fujian.

4.1.3. Logistics companies - to promote the overall development of regional urban economy

The growth of logistics companies has been largely driven by online shopping. When the development of logistics is compatible with the development of regional urban economy, a virtuous circle can be formed between the two and play a positive role[5]. An efficient logistics system can reduce operating costs, expand jobs, optimize industrial structure, and promote the overall development of regional urban economy.

However, there are some problems in the status quo of logistics in China, such as logistics development lagging behind e-commerce, service quality constraints on the expansion of e-commerce platforms, and logistics efficiency and service quality affecting consumers' shopping experience. Therefore, it is necessary to actively improve the status quo of logistics and enhance the standards of logistics industry to further promote the development of urban regional economy.

4.2. Policy suggestion

4.2.1. Support the development of small and medium-sized e-commerce enterprises

Establish and improve the e-commerce service system for small and medium-sized enterprises, strengthen financial support and e-commerce training, improve the docking mechanism between small and medium-sized enterprises and third-party service institutions, and help them improve their competitiveness through e-commerce[6].

4.2.1.1. Supporting policies and capital investment

The government should set up a special support fund to provide start-up capital and low-interest loans for small and medium-sized e-commerce enterprises. At the same time, the burden on enterprises can be reduced through tax incentives and other policies.

4.2.1.2. Cultivating talents and technological innovation

Universities and training institutions are encouraged to set up relevant courses to train professionals for e-commerce enterprises. Support smes to collaborate with technology companies to promote technology innovation and application.

Establish infrastructure: Increase infrastructure construction such as logistics and e-commerce parks to improve the operation efficiency of small and medium-sized e-commerce enterprises.

4.2.2. Protect the rights and interests of consumers and maintain a fair market competition environment

4.2.2.1. Accelerate the legislative process, improve regulations and supervision mechanism

Formulate and improve the E-commerce Law and other relevant laws and regulations, adhere to the principle of "promoting development, regulating order, protecting rights and interests", promote the development and innovation of e-commerce by providing a loose environment, and standardize the market order. Ensure that there are laws to protect consumer rights and interests, data privacy and security, and fight against fake goods[6]. This study will strengthen market supervision and maintain a high-pressure crackdown on unfair competition.

4.2.2.2. Establish a credit system

Implement a credit rating system for e-commerce platforms and sellers, make credit information transparent, and promote honest management. This study will strictly punish dishonesty and do our best to maintain market order.

4.2.2.3. Promote consumer education

Carry out a wide range of consumer education activities to improve consumers' market knowledge and identification ability, so that they understand their rights and ways to protect their rights.

5. Summary and conclusion

In recent years, with the popularization of Internet informatization, China's consumer market has undergone significant changes, with online retail sales growing from 6,000-8,000 units in 2018 to more than 14,000 by the end of 2023. Online shopping is favored by consumers because of its convenience and speed, and has a significant impact on consumer behavior and retail market, among which e-commerce logistics index and per capita disposable income have a significant positive impact on online retail sales. Online shopping not only attracts a large number of consumers and promotes the growth of domestic demand, but also promotes the development of efficient logistics systems and provides support for regional economies. In the face of the impact, the traditional retail industry needs to carry out e-commerce channel layout, improve efficiency and support store direct allocation. Overall, online shopping has changed consumption patterns and promoted economic growth by meeting diverse needs and good services. Improving laws and regulations, supporting small and medium-sized enterprises and protecting the rights and interests of consumers will be the key to promoting the sustainable and healthy development of e-commerce.

Online shopping is not only a change in consumption patterns, but also an important engine driving China's economic growth. The government should continue to support the development of e-commerce and ensure the sustainable and healthy development of this sector by improving laws and regulations, protecting consumers' rights and interests and promoting enterprise innovation.

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