

The impact of COVID-19 on consumer shopping mode: Evidence from Yonghui Supermarket

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Abstract. COVID-19, which is classified by WHO as a global pandemic and has a significant impact on all of humanity, it has been affecting different countries around the world since 2019 in terms of economic, cultural, and social aspects for a long or short period, with a deep or shallow impact. China, which has made significant achievements in controlling the development of the epidemic, completely relaxed its epidemic prevention policies that had been in place since the end of 2022, including restrictions on travel. This paper aims to study the impact of COVID-19 on the change in consumer behavior in China. According to the analysis, it is concluded that offline shopping is still irreplaceable, but more and more people are choosing online shopping as a shopping method. In particular, COVID-19 has accelerated this shift in shopping behavior. These results provide many companies with development ideas on how to capture the changing shopping style of consumers and find solutions to meet their needs in today's fully developed Internet.

Keywords: Online shopping; offline shopping; shopping mode; COVID-19.

1. Introduction

On December 31, 2019, when 27 cases of pneumonia of unknown etiology were identified in Wuhan, the capital of Hubei Province, China. The Chinese government reported the first outbreak of the novel coronavirus disease COVID-19 [1, 2]. The disease quickly spread to other regions, posing a significant threat to the lives and health of the population. In the two years since then, the Chinese government has controlled the outbreak through a series of practical actions, such as implementing a "dynamic zero" policy and promoting universal vaccination. However, as the epidemic spread around the world and the virus itself continued to mutate and become increasingly infectious but less virulent, China began to gradually relax its "dynamic zero" policy starting in December 2022. As a result, people began to free themselves from restrictions on various offline activities, gradually returning to the pre-outbreak state of 2019. In a way, it also announces the end of the universal prevention of COVID-19 [3, 4].

The impact of COVID-19 in all aspects has been a hot topic globally in recent years and has received considerable attention and discussion. Syed Shah Alam et al. studied the offline spending habits of Malaysians from a psychological perspective as affected by COVID-19. Through a survey of respondents, they found that they were motivated by protection to reduce the amount of time they spent in offline shopping centers because of health concerns and high risks and time spent in offline shopping centers [5]. JiHyo Moon et al. analyzed the factors that influenced consumers' choice of online or offline shopping during the COVID-19 epidemic using psychological theories such as PMT, TPB, and logit regression model using data from an online survey conducted in Korea. Among them, the development of the Internet, consumers' knowledge about COVID-19, and their agreement with the government's anti-epidemic policy influenced their choice of online shopping methods [6]. Using an online survey, Xuwen Gao, Xinjie Shi, Hongdong Guo, and Yehong Liu investigated the impact of COVID-19 on the food industry on online shopping platforms and analyzed why people choose to buy food on the Internet. The flexibility of online consumption and the security of reducing the frequency of direct contact with people during special times has increased the demand for online consumption [7]. Yan Chen et al., also in China, also mentioned through their research study that e-commerce platforms, through official policy requirements, have expanded the industry's advantages during special times when offline shopping channels are closed, influencing people's choice of shopping methods [8]. In addition to the study on Asia, the secondary data on the United States,

United Kingdom, Germany, France, Canada, and Latin America show the impact of COVID-19 on the ratio of offline sales to online sales in total sales in Europe and the United States. The effect of During the epidemic, online shopping became increasingly popular and has become a trend [9].

This paper aims to examine the impact of COVID-19 on consumer shopping patterns through literature research and analysis of store-specific data in China. Since most of the literature was conducted during the 2019-2022 epidemic, this paper concludes with a comparison of offline and online data at the end of the national epidemic. This research focuses on how people's shopping patterns were affected during the COVID-19 outbreak in China. Since the epidemic, China has greatly succeeded in slowing the spread of the epidemic and protecting the population's lives. This success has been made possible by the country's quarantine policies. These policies have reduced the impact on people's health by restricting manufactured activities (e.g., the economy and transportation), but while negatively affecting business activities and economic development.

2. Basic Descriptions

Back in 2019, when the world was not affected by COVID-19, China's online sales were already impressive. According to the survey of Mckinsey, China's online sales already reached 150 million that year, accounting for 1/4 of the world. In the wake of the epidemic, more and more people are choosing to shop online. On the one hand, this is because people are afraid of the epidemic, and this fear makes people prefer to live at home rather than going out [5]. On the other hand, online shopping, which allows consumers to stay away from crowded commercial areas, reduces direct contact with others, and offers home delivery service, has naturally become the preferred choice in the eyes of consumers [8]. Due to China's epidemic control policies, people are restricted from traveling: city closures, neighborhood closures, community closures, etc., have become the norm. The "health code" uses real-time activity route detection and travel restrictions for non-green health code users. Hence, people try to minimize their outside activities to avoid affecting their daily lives [3, 4]. In areas where travel restrictions are already in place, online shopping has become the only way for people to buy necessities and food [8].

In addition, China's cold chain logistics is developing rapidly, and its facilities and planning are well designed to meet people's needs. At this stage, China already has a lot of new shopping apps such as Freshippo, Ele.me that can provide fresh food within a few hours after the customer pays. So even though people's demand for fresh food is increasing during the epidemic, consumer demand is still being met, which becomes a virtuous circle: people's need for fresh food purchased online increases, and consumers' claims are met, which helps consumers to buy fresh food online more frequently [10]. On May 10, 2020, looking back at the six months of the epidemic, this was also the period of greatest fear at the beginning of the epidemic [11].

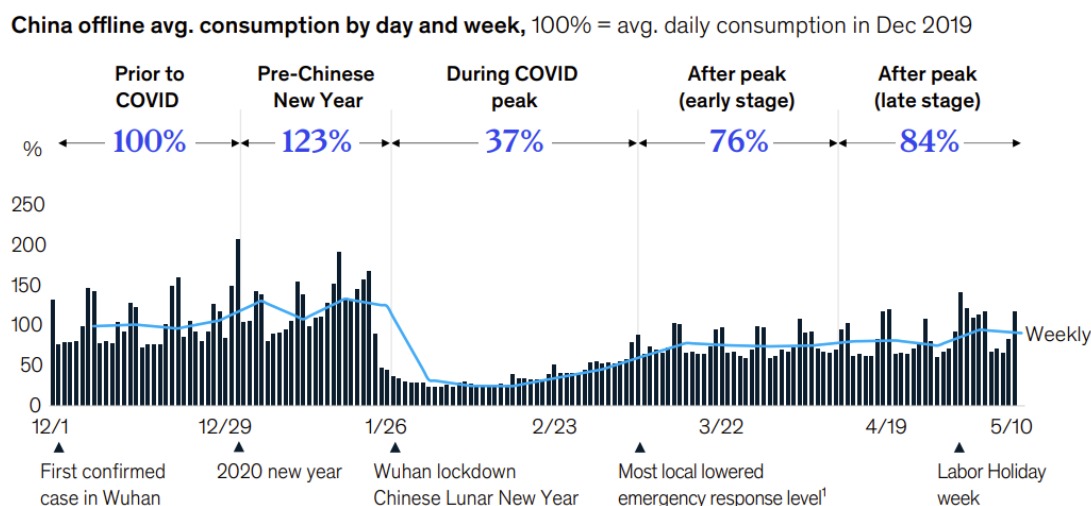


Figure 1. China offline consumption.

Using the December 2019 average spending as 100%, offline spending drops to about 37% of normal levels during the "peak epidemic period" between January 26, 2020, when Wuhan is lockdown, and March 8, 2020, when most cities lower their levels accordingly. At the same time, the frequency of offline shopping has decreased significantly due to concerns about the epidemic and the impact of travel on the epidemic prevention policy but the average spending per trip increases again. On the other hand, as of early 2021, data shows that the share of online shopping has increased significantly over the past two years of the epidemic: Chinese mass consumers are spending more than 7 hours a day on mobile internet, a 20% increase from the pre-New Guinea epidemic crisis, and about 36% of consumers will shop through new online channels such as social e-commerce represented by Jitterbug. The survey found that half of the consumers' purchases are made through the new online media. According to the study, half of the consumers' shopping interests and 25% of their purchases are influenced by social or content applications, a significant increase from 37% and 7% in 2017 (seen from Fig. 1) [12]. Thus, COVID-19 accelerates the development of online shopping and implements a faster shift from offline to online shopping models.

3. Case Analysis

Founded in 2001, Yonghui Supermarket is one of the top 500 Chinese enterprises and one of the first distribution enterprises in mainland China to introduce fresh agricultural products into modern supermarkets, which are recognized by the public for their special new food operation and their high-quality and inexpensive products. At the time of COVID-19, facing the surge in online shopping demand and intending to meet users' multi-scene consumption needs, Yonghui strives to promote online and offline integration, create "Yonghui in the cell phone" and provide users with safe, healthy, and cost-effective necessities, and has made good progress in meeting online shopping [13]. According to the financial statements for 2019 to 2021, Yonghui's online business is rapidly growing.

For the full year 2019, Yonghui's total retail sales of consumer goods amounted to RMB 41,164.9 billion, an increase of 8% over the previous year, a decrease of 1% from the prior year. Yonghui's national online retail sales amounted to RMB 10,632.4 billion, an increase of 16.5% over the previous year and a decrease of 7.4% from a year earlier, continuing the slowdown in growth; the proportion of online retail sales of physical goods to total retail sales of consumer goods was 20.7%, an increase of 2.3% over the previous year and a similar slowdown in growth. Influenced by COVID-19, which began in the year's second half, all indicators throughout 2019 reflect a trend of less change in the second half of the year than in the first half. The outbreak of the COVID-19 epidemic at the end of 2019 accelerated the shift in user shopping habits from online to offline shopping, as well as market changes such as market sinking, digital transformation, and industry evolution. In the highly competitive market environment, Yonghui has steadfastly accelerated the strategic transformation of its omnichannel business, comprehensively introduced digital operation talents, and strengthened the core capabilities of user, product and warehouse operations.

Based on the data collected from Sina, for the full year of 2020, Yonghui's online sales reached RMB 10.45 billion, up 198% year-on-year and accounting for 10% of the total. During the reporting period, the "Yonghui Life" home-delivery business has covered 1,000 stores, achieving sales of RMB 5.91 billion, up 147% year-on-year, with an average daily order volume of 230,000 and a monthly average repurchase rate of 49.1%. In terms of user operation, Yonghui has steadily promoted user digitization by using offline stores, built an omnichannel user rights and membership operation system, established a user data center, empowered accurate placement, and optimized marketing investment. As a result, as of December 31, 2020, the number of "Yonghui Life" members had exceeded 49.33 million, with 28.3 million new registered users, an increase of 250% year-on-year, of which 9 million were converted from offline stores, and 18.61 million monthly activities at the end of the year, an increase of 268% year-on-year. In terms of commodity operation, the company gave full play to the advantages of Yonghui's fresh food features, with the number of online SKUs covering 465 new food categories. Finally, in warehouse operations, the company established warehouse

operation and distribution management standards and completed the replication of the "second-generation warehouse" with unified standards, digital management, and tool empowerment as the core, optimizing service experience and significantly improving the on-time performance rate to over 93%.

During the 2021 reporting period, Yonghui Supermarket achieved sales of RMB 13.13 billion online, with an average daily volume of 437,000 units, accounting for 14.42% of the total. Among them, the "Yonghui Life" self-operated home delivery business has covered 1,000 stores, achieving sales of RMB 7.1 billion, up 21.1% year-on-year, with an average daily order volume of 264,000. The third-party platform home delivery business has covered 909 stores, achieving sales of RMB 6.03 billion and an average daily order volume of 173,000. As of December 31, 2021, the number of "Yonghui Life" members had exceeded 85,687,000, with a total of 36,373,000 new registered users, an increase of 28.4% year-on-year, and a peak monthly activity of 10,707,000. In addition, one has established warehouse operation and distribution management standards, completed the replication of the core home warehouses with unified standards, digital management, and tool empowerment, landed 441 warehouses nationwide, optimized service experience, and significantly improved the on-time performance rate to over 95.6%. Especially in Fujian, Sichuan, and Chongqing regions, the replication of home warehouses reached 69.6% in the area through continuous cultivation in 2021, and the on-time performance rate has reached 96.0%, reaching the industry-leading level.

On the other hand, despite the rapid growth of online shopping, Yonghui's total operating revenue remained relatively high during the epidemic. In the two years before the start of the epidemic and 2019, when the epidemic first broke out, Yonghui's annual Increase or decrease in the current period compared with the same period of the previous year (%) rose by around 20%. Still, Yonghui's Increase or decrease in the current period compared with the same period of the last year (%) in 2020, and 2021, both full years, are in a low or even negative growth situation. At the same time, the proportion of Yonghui's online sales is still increasing, which shows that offline sales are not very optimistic and are more negatively affected by COVID-19. At the same time, after the outbreak and normalization of the epidemic in 2020, Yonghui realized that physical retail was facing the impact of the endless e-commerce formats. As a result, there might be the risk of a decline in customer flow and continuous decline in primary business income, coupled with the traffic hunger of capital pushers or e-commerce giants, constantly using "subsidies" and "free" and other competitive means to attract traffic, further squeezing the living space of the physical retail industry, and COVID-19 itself has been China's various anti-epidemic policies have brought resistance to the business development of offline retail brick-and-mortar stores. Therefore, Yonghui has been improving its supply chain over these two years while achieving omnichannel business transformation and focusing on developing its online business. Thus, while allowing the online business to grow in proportion to meet consumer demand, it also reduced the impact of Yonghui's turnover due to the COVID-19 epidemic.

For online shopping, convenience and speed are huge advantages. The modern developed network technology meets the shopping needs of some consumers who live in geographically non-dominant areas. Consumers who live in areas where transportation could be more convenient or amenities could be better off shopping online more frequently than offline shopping. Instead of going to a specific location to make a selection, consumers can directly move their fingers and operate online to achieve the purpose of shopping. This feature makes consumers think that their time cost is low, even though they may spend a whole day or more time on the shopping site than offline shopping. At the same time, the filtering function of online shopping sites can meet consumers' shopping needs more directly and faster [14]. In addition, eye-catching promotions make consumers more price sensitive and more likely to choose products within their financial reach. Finally, the online platform allows online merchants to sell their products without the rent, utilities, and labor costs of offline physical stores, enabling them to sell at lower prices and meet consumer demand for lower-priced products [15].

In addition, for "low-touch" products, consumers do not need on-site experience to decide whether to buy them, such as amusement park tickets, airline tickets, etc. Online shopping saves consumers the hassle of going to a specific location and makes shopping convenient [15]. On the other hand,

during the COVID-19 epidemic, many commercial areas and offline stores experienced brief closures due to China's epidemic prevention policies. When offline shopping channels were limited, online shopping became the preferred way to purchase goods and materials [3].

Offline shopping is not as convenient, but it allows customers to have a higher experience than online shopping; especially for "high-touch" products, this offline experience becomes more critical. Customers can directly access the products they are considering: clothes, shoes, accessories, etc. They can try them on and see if they fit more now, and it is also convenient for consumers to make judgments about the quality of the products in a short period [15]. For expensive products such as houses and cars, most customers prefer to experience them on-site before making a purchase decision. In addition, for most services, offline shopping is irreplaceable. In addition to virtual services, many services require direct human contact, including the trendy spa, manicures, haircuts, and so on.

4. Limitations & Prospects

The findings and conclusions of this paper have some limitations because the study is on the Chinese market, which is more specific to the Chinese national context and will be influenced by the Chinese social environment. Moreover, focusing on two case studies is inevitably influenced by the specificity of the cases and only has the generality that applies to parts of the world. At the same time, the data used in this paper are not personally collected by myself but have been previously compiled by others and published on websites and in papers and reports and are secondary data. Therefore, these data are subjective in disclosure, and at the same time, the timeliness and reliability of these data are lower than primary data.

Although this paper focuses on the impact of COVID-19 on people's consumption choices, there is no way to exclude the factors that make online shopping more convenient and efficient due to the development of the Internet and the rise of the logistics industry. Although the epidemic was in the background, the development of various sectors did not stop, especially the new Internet-related initiatives. Even though this article was written after the Chinese government stopped its "dynamic zero" policy, the changing types of viruses and the increasing number of confirmed cases indicate that the epidemic is not wholly over, and its impact may still be ongoing. Moreover, everything is not quite back to where it was before the outbreak in 2019, so it may still have some effect on consumer behavior, the timing and extent of which still need to be discovered and is not included for analysis in this paper.

The shift in consumers' shopping from offline to online has been irreversible. Today, with the rapid development of the Internet, COVID-19 is accelerating the change in how Chinese consumers shop. From the data mentioned in this paper and the case of Yonghui, one can see that consumers' demand for online shopping is increasing, and Chinese companies are transforming their businesses to adapt to this change. However, since the case specificity of this paper may lead to results that are not universally applicable, this paper can serve as an inspiration and reference for more scholars to conduct more analysis and bring more meaningful research in different cases or different country contexts. It will successfully achieve the original purpose of this paper. The epidemic is not entirely over, and the effects it will bring next are still unknown, and more data are needed to support the study of these effects.

5. Conclusion

In summary, this study compares the respective advantages and disadvantages of online and offline shopping through the study of existing literature and data and then analyze specific cases to draw the impact of COVID-19 on people's shopping mode. This study collects existing survey data to obtain the results of the changes in consumer shopping behavior influenced by COVID-19 and then compare the online and offline data through the example of Yonghui Supermarket. By analyzing the advantages and disadvantages of online and offline shopping and taking into account the particular

situation in China during the epidemic prevention and control period, the results of the impact of COVID-19 on the change of Chinese consumers' shopping behavior are obtained. Overall, these results shed light on guiding further exploration of shopping modes development.

References

- [1] World Health Organization. Coronavirus Disease (COVID-19) Pandemic, 2022. Available online: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/>.
- [2] Carducci B, Keats E C, Ruel M, et al. Food systems, diets and nutrition in the wake of COVID-19. *Nature Food*, 2021, 2 (2): 68 - 70.
- [3] Liu W, Yue X G, Tchounwou P B. Response to the COVID-19 epidemic: the Chinese experience and implications for other countries. *International journal of environmental research and public health*, 2020, 17 (7): 2304.
- [4] VOA News. What is China's zero-covid policy, 2023, Retrieved from: <https://www.voanews.com/a/what-is-china-s-zero-covid-policy-/6854291.html>.
- [5] Alam S S, Masukujaman M, Al-Shaikh M E, et al. Desire to stay shorter time at the shopping mall: insight from protection motivation (PMT), behavioral inhibition system (BIS), reactance, and expectancy theories. *Current Psychology*, 2022: 1 - 20.
- [6] Moon J H, Choe Y, Song H J. Determinants of consumers' online/offline shopping behaviours during the COVID-19 pandemic. *International journal of environmental research and public health*, 2021, 18 (4): 1593.
- [7] Gao X, Shi X, Guo H, et al. To buy or not buy food online: The impact of the COVID-19 epidemic on the adoption of e-commerce in China. *PloS one*, 2020, 15 (8): e0237900.
- [8] Chen Y, Zheng G W, Dong A B S Q L, et al. Factors affecting the consumers online shopping during the COVID-19 pandemic in China. *Revista Argentina de Clínica Psicológica*, 2021, 30 (1): 853.
- [9] Sayyida S, Hartini S, Gunawan S, et al. The impact of the COVID-19 pandemic on retail consumer behavior. *Aptisi Transactions on Management (ATM)*, 2021, 5 (1): 79 - 88.
- [10] Chen J, Zhang Y, Zhu S, et al. Does COVID-19 affect the behavior of buying fresh food? Evidence from Wuhan, China. *International journal of environmental research and public health*, 2021, 18 (9): 4469.
- [11] Li B. Research on the Development of E-Commerce of Fresh Agriculture Products Industry. Ph.D. Dissertation, Graduate School of Chinese Academy of Social Science, Beijing, China, 2014.
- [12] McKinsey. China's digital consumers: 2019 trends. Retrieved from: <https://www.mckinsey.com/~media/McKinsey/Featured%20Insights/Asia%20Pacific/How%20Chinese%20consumers%20are%20changing%20shopping%20habits%20in%20response%20to%20COVID%2019/HowChineseconsumersarechangingshoppinghabitsinresponsetoCOVID19Mayupdate.pdf>.
- [13] Yonghui homewebsite. Retrieved from: <https://www.yonghui.com.cn/about/gsjj/>.
- [14] Chiu Y P, Lo S K, Hsieh A Y, et al. Exploring why people spend more time shopping online than in offline stores. *Computers in Human Behavior*, 2019, 95: 24 - 30.
- [15] Levin A M, Levin I R, Heath C E. Product category dependent consumer preferences for online and offline shopping features and their influence on multi-channel retail alliances. *J. Electron. Commer. Res.*, 2003, 4 (3): 85 - 93.