



The Comprehensive Impact of COVID-19 on the Catering Industry and Recommendations for Recovery

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Abstract. In 2019, the new coronavirus broke out in Wuhan, China. Many people have died from the virus, and while confirmed cases have spread rapidly, the world economy has been hit hard. Because of the COVID-19 pandemic, people's Daily lives and eating habits have been greatly affected, people are going out less and paying more attention to healthy eating. This has led to a sharp drop in revenue for the catering industry. In order to help the restaurant recover from the epidemic and help the government recover the economy, based on the literature review and questionnaire survey results of restaurateurs, this study will analyze the specific impact of the epidemic on the customer flow and income in different restaurants, make some predictions about the future catering industry, and give some recommendations for restaurateurs and policymakers to aid in the recovery such as using machines and robots to replace laborers and increasing barriers to entry to the catering industry.

Keywords: Coronavirus COVID-19, Catering Industry, Policy Recommendations.

1 Introduction

The coronavirus pandemic 2019 (COVID-19), which was caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), resulted in a global pandemic in 2019. The disease first appeared in the city of Wuhan in China, at the end of 2019. It then rapidly spread to many countries around the world in the early 2020s, gradually becoming a global epidemic. As of September 2021, the world has reported over 775,829,432[1] confirmed cases of the disease, with over 7,056,095 deaths, resulting in a mortality rate of approximately 2.09% [2], making it one of the largest pandemics in human history. The estimated mortality rate for the disease varies greatly among countries, with most countries reporting an observed mortality rate of between 0.5% and 5.0% [3]. The pandemic then spread to Japan, South Korea, and Thailand, among other neighboring countries, starting from January 13, 2020[4], and reached the United States in Seattle on January 21, 2020, outside of Asia [5]. On 23 January, Wuhan City Novel Coronavirus Pneumonia Epidemic Prevention and Control Command announced

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isolation and quarantine measures for the epidemic-affected area [6], which was the first time in modern public health history that a city with a population of tens of millions was sealed off. On 29 February, the WHO raised the risk level of the epidemic to "very high" [7]. On 11 March, a huge number of cases were reported in the Middle East and Europe and the WHO declared that the outbreak had become a 'global epidemic' [8].

The catering industry has always been an important part of the global economy, not only fulfilling people's daily nutritional needs but also creating numerous jobs for society. In China, every 10 square meters of restaurant space can create one job. Nearly 30 million people are directly employed in China's catering industry. In 2023, China's catering revenue exceeded the 5 trillion-yuan mark for the first time to hit a record high [9]. During the epidemic, people reduce their going out and gradually start to pay attention to healthy eating habits, so the catering industry will be greatly affected, which also means that the study of the impact of the epidemic on the catering market has great research value.

Reviewing previous relevant studies, I found that most of the papers collected data, cases, and new phenomena related to the impact of COVID-19 on the catering industry, analyzed the impact of COVID-19 on the catering industry, and proposed solutions. The research in this paper will provide guidance for future policymaking, market players and the future development of the restaurant industry, focusing on the changes in China's restaurant industry before and after the pandemic (2018-2021).

1.1 Decreasing Demand in The Catering Industry

To more intuitively feel the reduction of customer flow in the catering industry brought about by COVID-19, I made a questionnaire. I sent it to restaurateurs from Hainan, Zhejiang Province, Shaanxi, Shanghai, Guangdong Province, and Macao, China to fill in. They were asked whether they thought COVID-19 significantly impacted restaurant customer flow and what percentage of customer flow was reduced by COVID-19. The survey lasted five days and received 124 submissions. I collated these data and drew two graphs and calculated the average value of customer flow reduced by COVID-19 and the percentage of people who agreed that COVID-19 would reduce customer flow. Due to insufficient sample size, unfamiliarity with other countries' catering industry, and potential bias, this study still has limitations.

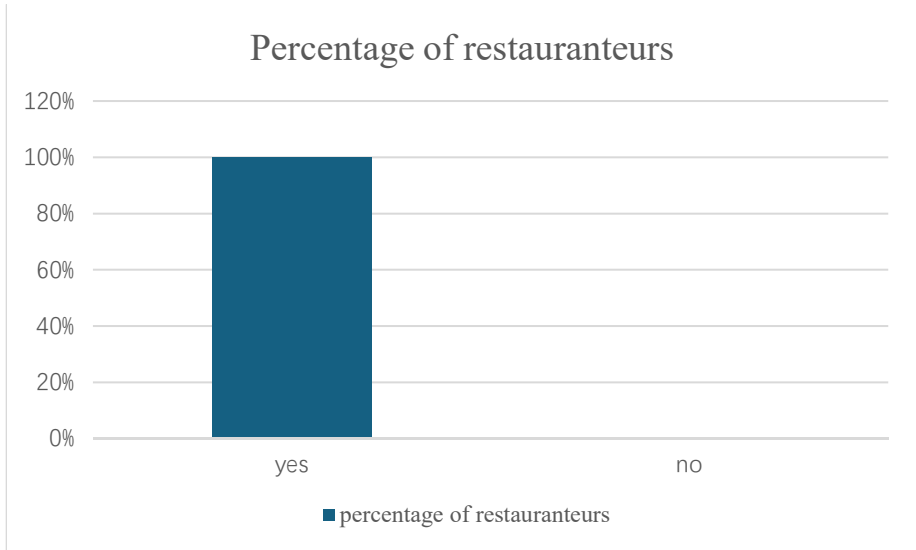


Fig. 1. Percentage of restaurateurs who agree or disagree that their income has dropped as a result of COVID-19.

Figure1 shows the percentage of restaurateurs who agree or disagree that their income has dropped as a result of COVID-19. In this graph, the X-axis is the opinion of restaurateurs on whether COVID-19 will affect customer flow, and the Y-axis is the percentage of restaurateurs who agree with this opinion. It can be seen from the data in the figure that 100% of the surveyed restaurateurs believe that COVID-19 has an impact on the customer flow of their restaurants.

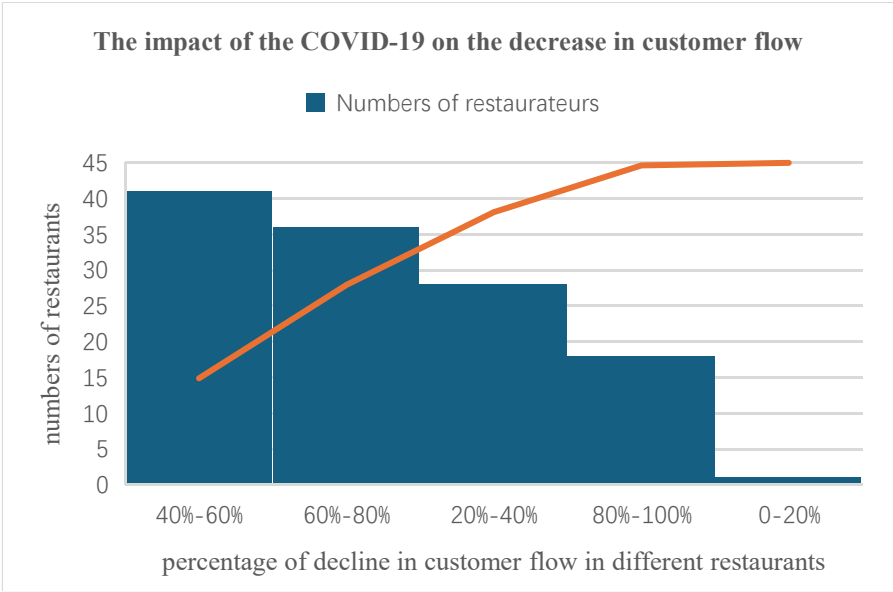


Fig. 2. The impact of COVID-19 on the reduction in customer flow in different restaurants.

Figure2 shows the impact of COVID-19 on the reduction in customer flow in different restaurants. The X-axis of this graph represents the percentage reduction in customer flow due to COVID-19 in restaurants of the restauranters under investigation, and the Y-axis represents how many restaurants under investigation were within this reduction. By analyzing the data in the table, it can be seen that 40 restauranters believe that COVID-19 has reduced the customer flow of their restaurants by 40% to 60%. About three dozen restauranters believe that COVID-19 has reduced customer flow at their restaurants by 60 to 80 percent. Above 25 restauranters believe COVID-19 has reduced customer flow at their restaurants by 20% to 40%. Above 15 restauranters believe COVID-19 has caused an 80-100% reduction in customer flow at their restaurants. And the customer flow decreased by 57.21% on average in this survey. It is well known that the demand in the catering industry means a decrease of restaurant customer flow. Therefore, through this questionnaire survey, it can be concluded that COVID-19 has caused a sharp decline in demand in catering industry.

1.2 Healthy Eating Trends

In retrospect, 2023 is the year of the “girl's dinner” (aka whatever's in the fridge) and the year of sober curiosity. There's a high alertness of menopause and gut health, we're drinking green matcha, eating for hormonal health (or, at least, trying to eat), and cooking as much as we can in an air fryer. We viewed a number of TikTok videos, with

#ashwagandha, #lionsmane, #overnightoats and #coronationchicken being the most viewed topics. Celebrity chefs are catching on to the “five or fewer ingredients” trend, while nutritionists are telling us that 30 veggies a week is the new 5 a day. Chia seeds are becoming a powerhouse ingredient because of their nutrition, and “fake protein” products are vying for a place on our plates [10].

So in this case we can assume that people pay more attention to their health conditions and eating habits, so they tend to eat healthier.

1.3 Increasing Competition

It is generally believed that many people gave up their business during the epidemic owing to the serious losses. However, because of the low barriers to entry into the catering market, there are still many people joining the catering market and setting up many new restaurants. Therefore, the competition in the catering industry has not decreased but has increased a lot.

In 2023, 2.98 million new restaurants opened in China, with a shop opening rate of 43%. The data reflects the active state of the F&B sector in 2023, especially in the first half of the year, as many F&B owners chose to expand their business and open a large number of new outlets due to the widespread reduction of commercial property rents and the positive confidence impact after liberalization.[11] This trend is reflected in the number of new stores.

At the same time, a variety of new catering concepts and brands continue to emerge to meet the diversified needs of consumers for catering.

1.4 High Pressure

Strengthening quality and safety. Implement food safety requirements and food safety risk grading supervision. Strictly food raw materials purchase inspection, strict access to food raw materials. Vigorously implement the catering food ingredients and production methods of independent express system, the implementation of catering takeaway sealing system, in the catering sector to fulfill the commitment to reduce the use of food additives, do not add unnecessary substances, and consciously resist the illegal addition of non-food substances. (The Ministry of Agriculture and Rural Development, the Ministry of Commerce, the General Administration of Market Supervision and local governments are responsible for this according to their division of responsibilities).

Improve the system of standards. According to the development needs of the industry, a number of national standards and industry standards in the field of catering have been revised. We will establish and improve evaluation standards for Chinese food and foster an internationally influential evaluation system for Chinese food. We will strengthen the publicity and implementation of standards for the catering industry. (The National Health Commission, the Ministry of Commerce, the General Administration

of Market Regulation and the local governments shall be responsible according to the division of responsibilities)

Standardize the development of prepared vegetable industry. Accelerating the formulation and improvement of standards related to prepared dishes, continuing to carry out risk monitoring and assessment of prepared dishes, and further strengthening food safety supervision of prepared dishes. Guide relevant organizations to establish a joint development platform for prepared dishes technology, and continuously improve the quality of prepared dishes. (The Ministry of Industry and Information Technology, the Ministry of Agriculture and Rural Development, the Ministry of Commerce, the National Health and Wellness Commission, the General Administration of Market Supervision, and local governments are responsible for this according to their respective responsibilities) [12].

The outbreak is believed to have been caused by the consumption of wild animals, so the government began to tighten supervision of the catering industry.

2 Problems Exist in The Catering Industry

2.1 Decrease in Restaurant Revenue

In the second half of 2023, Zhang Yiwen found a sudden change in the Beijing catering market. Since the fourth quarter of last year, the monthly turnover of a Japanese barbecue shop he runs has slipped from more than 1.5 million yuan to about 1 million yuan. After entering this year, the trend has not eased, but intensified, and the monthly operating income has gradually shrunk to about 700,000 yuan. The restaurant's monthly net profit is now down nearly 80 percent from the first half of last year.[13]

Because of the falling demand in the catering industry, the customer flow decreases, so the sales also decrease, causing a decrease in the restaurant revenue.

2.2 Shortage of Labor Supply

All residential areas, buildings, and doorways should in principle retain only one entrance and exit to ensure fire safety, and those that do not have closed conditions should be temporarily enclosed or set up warning lines, and also arranges for management personnel to be on duty 24 hours a day and strengthens the registration and management of incoming and outgoing personnel and vehicles. each household sends one person out to buy daily necessities every three days. Judicial organs will take measures in accordance with the law for those who violate the first-level emergency response management regulations for major public health emergencies.[14]

During the epidemic period, the government has taken many measures to restrict people's travel, and the inter-regional exchanges have also been restricted, and it's also more time-consuming for the laborers who are far away from their workplace to go to

work because of the check-ups. So geographical labor mobility has been reduced. On the other hand, in order to keep themselves safe, many laborers decided not to work.

2.3 Increasing Fixed Cost

Because of the epidemic, restauranters and consumers are not allowed to go outside developers have less income, so they may increase rents. What's more, the epidemic also caused an increase in transportation expenses, so the cost of raw materials may increase too.

3 Solutions Refined and Policy Recommendations

Restauranters can use machines and robots to replace laborers. Because machines and robots are more efficient than humans, the quantity supplied by restaurants may increase so the sales increase. It also reduces the salary paid to the laborers and saves the time to train laborers, so the fixed cost decreases. The emergence of AI cooking robots has solved some problems in the production of fried food in the traditional catering industry. In the context of high labor costs and low efficiency, AI cooking robots provide a new solution. These robots break down the master's craft into a specific physical combination by finely quantifying every step of the Chinese cooking process and importing the recipe program into the robot brain, thus copying the chef's cooking process and technology, ensuring that every dish can reach the "chef level". This greatly reduces labor costs and improves efficiency. Therefore, I think there is still a lot of room for the development of AI cooking robots in the future, and it can further reduce fixed costs and increase efficiency for restaurants.

Increase the barriers to entry to the catering industry. After COVID-19, many people lost their jobs, and owing to the low barriers to entry to the catering industry, many new businesses have been set up, and competition increased. If the barriers to entry increase, the number of businesses falls and competition decreases. The government can strengthen supervision and introduce some related policies to ensure the quality of meals and services. The government can formulate a series of policies to increase hygienic standards and strengthen qualification examinations. So that people are also more comfortable with the food served in restaurants. The increase of barriers of entry can be implemented through the revision of regulations by the government, so this plan is feasible.

Restaurants can also optimize their dishes to follow trends in people's eating habits. Many people tend to eat healthier. Almost 1 in 2 consumers globally say they sometimes replace meals with a quick healthy bite. So, restauranters can develop some food that is portable and full of nutrition. This situation will improve people's health. Investment in healthcare may be reduced, and life expectancy will increase.

4 Conclusions

This paper mainly analyzes the effect of COVID-19 on the catering sector. Several impacts have been mentioned by making a questionnaire and literature reviews, by sorting out the results of the questionnaire survey, it can be seen that 100% of the restauranters surveyed believe that COVID-19 has an intuitive reduction in restaurant customer flow, so we can conclude that COVID-19 decrease the demand in catering industry. And we can also see from the review of previous papers, that COVID-19 causes the shortage of labor supply, and rise in fixed costs. These impacts cause some problems in the catering industry. Restaurants' revenue decreases, fixed cost increases, and shortage of labor supply.

To solve these problems caused by COVID-19, this paper recommends government strengthen the supervision and introduce related policies to increase the barriers to entry, and also give suggestions to restauranters to replace laborers with machines and robots and optimize their dishes. Looking ahead, the goal of the restaurant industry should be to restore the economic situation before the epidemic, and it is hoped that the experience of this epidemic can help restauranters and governments better cope with the problems and difficulties after the outbreak.

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