

The Impact of Technological Innovation in Takeout Industry on Consumers

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ABSTRACT: This paper solves the problem of what impact the technological innovation of the Meituan Takeout has on consumers. The delivery industry is very popular in China with many consumers. This paper can have a deeper understanding of the advantages and disadvantages of the technological innovation of the Meituan Takeout, and consumers can decide whether to use the Meituan Takeout platform. The research employs SWOT analysis, judging the satisfaction and acceptance of consumers through the mass rating and download volume of the APP (application) of the Meituan Take-out platform in the mobile phone store. This paper concludes that the technological innovation of the Meituan takeout platform has both positive and negative effects on consumers. Online to offline and the takeout platform for big data and information sharing can bring enough convenience to consumers, but they can also increase uncertainty and insecurity. The meaning of this article is that consumers can fully understand the impact of technological innovation and the problems that need to be corrected immediately.

Keywords: takeout industry, technological innovation, consumers.

1. INTRODUCTION

With the advent of the Internet 3G, China's online delivery platform has always had a good development space to replace the traditional way of making phone calls. Chinese people are also beginning to rely on the delivery platform, especially white-collar workers since online delivery ordering is more intuitive, effective, and portable than traditional telephone ordering. As consumers are allowed to use their take-out platforms, China's major take-out platforms have successively made technological innovations. Such a phenomenon brings consumers a more convenient take-out experience, but it also brings some unsafe phenomena. The so-called technological innovation refers to the behaviours of improving or creating new things, including but not limited to various products, methods, elements, paths, and environments, and obtaining

certain beneficial effects in a specific environment based on idealized needs or to meet social needs. At present, the technologies existing in the delivery platform include information sharing, big data, and online to offline. In terms of the technological development of the delivery platform, the delivery platform makes use of information sharing, but it has produced some negative effects. Consumers' information cannot be better protected and is used by some people with bad behaviours, resulting in the leakage of personal information such as consumers' phone numbers and addresses. The take-out platform performs big data analysis through the data of online ordering, calculates the satisfaction degree of consumers to online stores and the preferences of consumers, and provides reasonable recommendations to consumers through relevant data on the platform interface. At present, the delivery platforms are all changing from online to offline after technological innovation. Online to offline has opened the information and experience that links both online and offline, allowing offline consumers to avoid the "price blind" caused by information asymmetry and at the same time realize the "pre-sales experience" for online consumers. As an entrance to offline consumption decisions, online platforms can bring together a large number of consumers with consumption demand or trigger off offline consumption demand of consumers. The online platform provides consumers with detailed information, discounts, and convenient services of the shops, which is convenient for consumers to search and compare the shops.

Before this research, there was much research on the technological innovation of the takeout industry for consumers. For example, Guo found the reasons that affect whether the delivery platform under the catering online to offline is used in analysing the behaviours of the consumers of the delivery online to offline and used the method of nonlinear canonical correlation analysis to dig out the reasons of the users who do not use the delivery platform [1]. Zhao and Wu surveyed the satisfaction of the consumers who are using the delivery platform after technological innovation and analysed it from the aspects of service quality, delivery quality, consumers' expectations, and satisfaction, etc. [2]. Wang and others based their analysis on the consumer behaviours of the online platform to provide an analysis for the delivery platform to better serve consumers [3].

Although there are many kinds of research on consumers' satisfaction and trust of online to offline in the delivery industry, they do not involve the impact of the delivery platform combine with information sharing, big data, and online to offline technologies on consumers. Online to offline only connects online and offline services, but the analysis of consumers' personal information and preferences is also very important for consumers to use the delivery platform, especially for consumers' personal information, which is not well protected after collection and analysis of the delivery platform, leading to the leakage of personal information. Therefore, this paper discusses and studies this aspect.

The purpose of the research is to study the risks (address leakage, telephone information leakage, and food safety issues) and benefits (making food recommendations based on personal preferences to save time choosing food, saving delivery time according to the delivery address, and saving lots of cooking time to make life easier) of the innovation in the takeout industry to consumers ordering takeout. Before doing the research, the author hypothesized that the technological innovation of the delivery platform has both positive and negative effects on consumers, and the goal of this paper is to find out the specific benefits and risks of the technological innovation of the takeout industry to consumers and their influence. To verify the hypothesis, this paper would include the use of some relevant data, literature about the impact of

the takeout industry's technological innovation on consumers, and then combine them with SWOT analysis to analyse the result and draw a conclusion. The conclusion would contain the benefits and risks of the technological innovation of the takeout industry to consumers and their influence, some suggestions to reduce the risks, and the limitations of the research.

2. LITERATURE REVIEW

2.1 Technology Innovation on Consumer Behavior

Over the past decades, most of the researches in technological innovation pay particular attention to how does it affect consumers. There is also a paper published by Fain and Roberts in 1997. They discussed what is the relationship between technology and consumer behaviours [4]. Consumer behaviours means a certain way for a consumer to buy things. It could be different from person to person. In the paper "Technology vs. consumer behaviours: The battle for the financial services customer", the widespread availability of sophisticated technology coupled with the recent wave of mergers and acquisitions in financial services has heightened competition throughout the industry. Battles for consumers' financial services dollar are taking place constantly, usually based on single-step direct marketing programs. However, consumer resistance appears to be growing, especially resistance to new, high-tech alternatives to existing products consumers already used and understood, and examines some examples of the current situation, and then uses a discussion of diffusion of innovations theory to help explain why the current situation has occurred. In 2008, Marios Koufaris and others improved the theory that new technologies and process innovation are essential to delivering on identified consumer and market needs [5]. They gave the point with evidence that when the technology innovation exploded in a period, the consumers would be more likely to purchase goods in the industry that just faced the technology explosion. To sum up, take-up of these processes is currently limited, although one process, high-pressure processing, is now beginning to be commercially important. The industry is highly conservative, and many innovations are in practice made first by smaller companies which however may lack the depth of scientific, engineering, and management know-how to commercialize the process. Research associations have perhaps the best chance of linking the industry needs and the technical understanding required to create new commercial processes. According to the theory proposed by Fain and Roberts, the purchasing power would increase when the technology explodes [6]. In the takeout industry, this paper could also use such a theory to improve the limitation.

2.2 Consumer Acceptance

In recent years, there has been an increasing amount of literature on consumer acceptance. In 2009, Chae studied smart cloth by using the consumer acceptance model [7].

Consumer acceptance means that for a certain of goods, what percentage of people are willing to buy. Authors discussed the appropriateness of acceptance models of smart clothing and differences in the hypothesis of the path to clothing acceptance by classifying consumers depending on the level of technological innovation and fashion innovation through the extended Technology Acceptance Model (TAM) presented by Chae in 2009 [8]. They first used TAM in the clothing industry. By using this way, sellers could know the consumer acceptance of every type of cloth. In 2014, Mukhlis Yunus published a study about the effect of diffusion of

innovation which has the relative advantage, compatibility, and trial-ability toward intention to use mobile banking through the consumer attitudes [9]. This author had added a new element to the existing TAM model and used the model in some other ways. To sum up, based on the studies above, the takeout industry has the same strategy, which is how do they find consumers preference, and how they could increase their turnover from it.

2.3 Consumer Satisfaction

Consumer satisfaction, also known as the customer satisfaction index, is the abbreviation of the customer satisfaction survey system for the service industry. In other words, it is an index that customers get by comparing the perceived effects of a product with their expectations. Consumer satisfaction is a major concept in the field of marketing and consumer behavior.

A large and growing body of literature has investigated the influence of technological innovation in the takeout industry on consumer satisfaction. Some researchers studied the factors affecting consumer satisfaction more precisely. In 2017, Peiqi Liu further studied the specific factors and their significance of influencing customers' satisfaction in O2O mode, and the results demonstrated that the degree of satisfaction of catering takeout in O2O mode from high to low is the security of ordering platform, food quality, service quality of catering takeout, marketing level of ordering platform and information factors of ordering platform [12]. One year later, Hu and Chen found that the satisfaction of consumers is related to lots of factors, which agree with Liu [13].

Suggestions to improve customers' satisfaction include designing a beautiful and innovative ordering platform, improving the quality of their food, and using effective distribution tools. In 2018, Ruixiang Fang studied the specific factors that influence consumers' trust in the takeout industry and came to similar conclusions to Liu, Hu, and Chen [14]. However, the hypothesis that the scale of food delivery platform and the performance of mobile devices have a positive impact on the level of consumer trust in O2O food delivery is untenable; among the 7 hypotheses that passed the inspection, the path analysis results indicate that the usability of takeout APP, the management system of the takeout platform and the quality of service have a great impact on the level of consumer trust [14]. To give a more detailed example, Juan published a paper in 2018 to study the innovation of Starbucks' marketing channel management [15]. The results demonstrated Starbucks coffee marketing channel management in the product, price, channel, and promotion innovation, and provided other fast-moving consumer goods (FMCG) enterprises with inspiration in network marketing.

In conclusion, consumer satisfaction is related to a lot of factors, including the security of ordering platform, food quality, service quality of catering takeout, marketing level of ordering platform, information factors of ordering platform, consumer trust tendency, historical consumption experience, the management system of the takeout platform and ease of use of the takeout APP. According to the theory and related studies, the technological innovation in the takeout industry has a positive effect on consumer satisfaction, since the innovation of ordering platform, marketing level of ordering platform, information factors of ordering platform, the management system of the takeout platform and takeout APP can improve consumer satisfaction.

3. METHOD

3.1 Research Design

This article employs qualitative analysis, a research method that focuses on qualitative research of the attributes of something through logical reasoning and other ways of thinking since the study is more logical than numerical. Using SWOT analysis, the paper analyses the situation of Meituan Takeout based on its internal and external competitive environment and conditions, to study the effect of technological innovation in the takeout industry on consumers. Since Meituan Takeout is the most popular (having the largest number of consumers) food delivery company in China, its circumstance is representative for the study of the takeout industry.

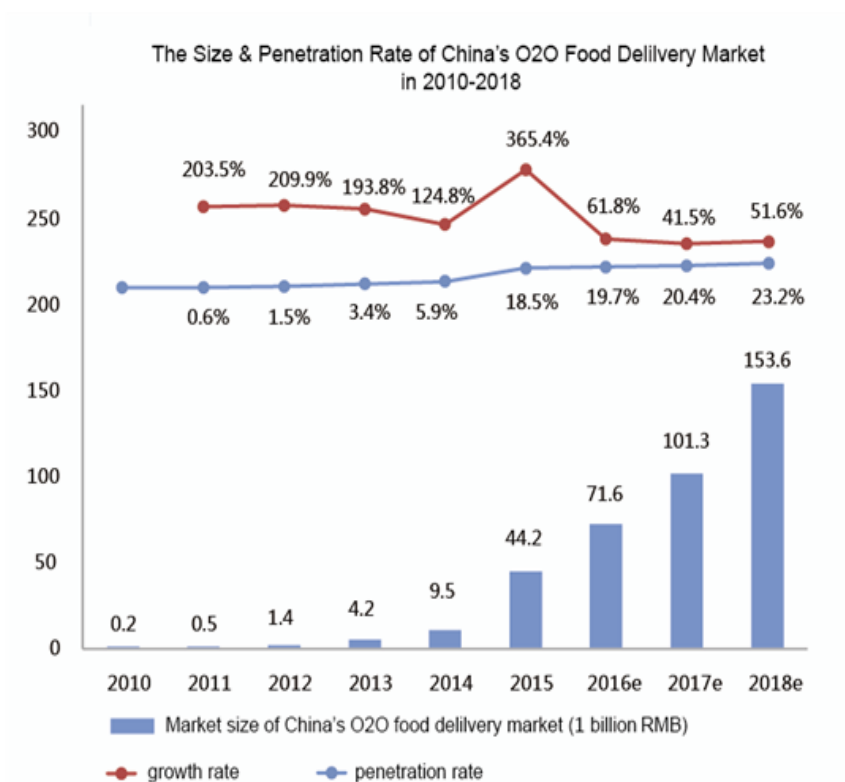


Figure 1 Changes in Consumer Size under online to offline in Takeaway Industry from 2010 to 2018 [16]

3.2 Data Collection

The earliest form of takeout was restaurant packaging. Later, with the popularity of telephone and mobile phone, telephone ordering had gradually become the main means of the takeout industry, which also made the takeout industry develop rapidly. Compared with restaurant packaging, telephone ordering had stimulated the development of the takeout industry greatly due to its advantages of getting the food without going out. The popularity of the internet in the

1990s also stimulated the takeout industry, and students and white-collar workers became the main force of ordering websites due to their busy lifestyles. It also developed a lot of Internet ordering enterprises, such as Meituan and Eleme. In 2012, with the development of smartphones, Wechat grew rapidly with unstoppable momentum. On this basis, a lot of secondary development was derived from Wechat. One of the most striking and indispensable development was the Wechat takeout. In the era of mobile applications dominated by APPS, Wechat secondary development, with its absolute advantages of no download and no occupation of desktop space, had occupied the market of many APPS and became the preferred field of business development.

One of the most famous enterprises in the food delivery industry called Meituan Take-away, an online ordering platform under Meituan, was officially launched in November 2013 and was headquartered in Beijing. Meituan takeout has 250 million users, more than 2 million cooperative merchants, more than 500,000 active delivery riders, covering more than 1,300 cities and completing 21 million orders a day. In 2017, Meituan's total transaction volume reached 171 billion yuan. On June 27, 2019, Meituan's instant delivery brand Meituan Signed a strategic cooperation agreement with Tower Energy. On January 26, 2020, Meituan Takeout took the lead in launching "contactless delivery" and quickly achieved nationwide coverage. In March, 72 brick-and-mortar bookstores in Beijing became the first batch of demonstration enterprises to enter Meituan's platform, which provided free admission and traffic subsidies to the first batch of bookstores.

3.3 Data Analysis

3.3.1 Strength

There are two main strengths of technological innovation in the Meituan Incorporation. For one, because of the convenience of the takeout service, there is a word-of-mouth effect among people, which works like when a person think one takeout app is useful, they will recommend the app to his or her friend, and his or her friend will continue recommending the app to others. As time passes, the takeout service will quickly spread around the world. Furthermore, the firm will advertise its services actively, which could also enhance its popularity. These two factors both contribute to the first strength--high popularity. For another, according to the scoring system from the online ordering apps, which consumers could judge whether the ordering platform is good or not, the overall score for the app is relatively high, indicating the second strength. The satisfaction for consumers using online takeout apps is high.

3.3.2 Weakness

Although technological innovation brings convenience to the Meituan Incorporation, it also brings several drawbacks. Within the Meituan app, the consumers could choose thousands of types of foods from the market, and get the food within an hour. However, the illustrations for the sellers such as pictures could be slightly different from the reality. This problem leads to the first drawback--people's satisfaction could be lower when there are "gaps" between the illustration of the food and the reality. Furthermore, these problems could not be solved, because the app is based on the internet, for which people cannot get 100 percent true information. Secondly, the platform has a slower uploading speed than reality does. Something

new could be created in the real world, but it does not exist in the app, which could make the consumer experience awful.

3.3.3 Opportunity

At present, scientific and technological innovations only exist in urban areas. Globally, only urban residents have a high quality of life and enjoy the convenience of life. Compared with urban areas, the development of rural areas is relatively slow. Terrain problems, economic problems, and scientific and technological development problems make the development of the takeout industry in rural areas relatively stagnant. Therefore, in the future, Meituan company should not only continue to expand the market in the original markets, but also focus on the markets with relatively few interferences, such as rural areas, and expand the market according to appropriate conditions.

3.3.4 Threaten

Although the whole takeout industry is an oligarch economy, meaning that the whole industry is divided by a few firms, and the overall competition intensity is still very large. The whole market is occupied by different companies in different aspects. At the same time, companies cannot get involved in the fields that are already occupied by other companies. This is also the first external threat--highly competitive. Meanwhile, takeout is very complex and may make mistakes in all aspects, so it is very hard to make the whole chain perfect. The problems such as overtime, food safety, the relationship between customers and takeout could usually appear, are the second threat.

4. RESULTS

Through SWOT analysis, this paper analyzes the impact of the technological innovation of the Meituan Platform on consumers. The conclusion is that the advantage of technological innovation in Meituan platform is that Meituan Takeout is an increasingly popular platform; Meituan platform is well-known and has a wide range of consumers, and consumers are also satisfied with it; Meituan delivery platform provides consumers with the best choice of shops and better after-sales service, making consumers feel more convenient. Similarly, it also possesses disadvantages. For example, consumers' personal information is not safe after information sharing. Even if the Meituan platform can provide consumers with tens of thousands of shops, the food pictures uploaded on the platform are often inconsistent with the facts, thus misleading consumers. Regional distribution away from stores is expensive and technological innovation is only beneficial to urban areas, with competitors in the same industry increasing.

5. DISCUSSION

The technological innovation of the delivery platform of Meituan has both positive and negative effects on consumers. On the positive side is to select suitable shops for consumers, provide satisfying after-sales service for consumers, integrate online ordering with offline distribution, and realize online to offline. On the negative side, consumers' personal information is poorly

protected, food photos on the platform are not in line with the actual objects, and technological innovation benefits fewer regions.

According to the conclusion of SWOT analysis, the following suggestions are put forward: first, the express delivery platform should be vigorously promoted to allow more consumers with demand to participate in the use of the express delivery platform; second, the riders of the US Team Platform should continue to ensure punctuality; third, the express delivery platform should continue to maintain good after-sales service to ensure consumers' satisfaction with the express delivery platform, actively collecting feedback from consumers and deal with problems promptly; fourth, online ordering and offline delivery should be more closely linked. To reduce the negative impact of technological innovation in the express delivery industry on consumers, first of all, major express delivery platforms should strengthen the protection of consumers' personal information, preferably using setting passwords and other means; second, for food safety monitoring before delivery, the delivery platform should allow the merchants to upload pictures of food ingredients, condiments and tableware every day, and the pictures of the food should be consistent with the actual objects; the third point is that the delivery platform should expand the scope of merchants' delivery areas and allow delivery personnel in each area to deliver food. More than developed cities can enjoy technological innovation.

In conclusion, the technological innovation of the Meituan Takeout platform has both positive and negative effects on consumers. This is consistent with the conclusions of Guo, Zhao, Wu, Tao, and others on consumer satisfaction with the technological innovation in the takeaway industry. It shows that technological innovation has brought a lot of convenience to consumers in the delivery industry. This can be seen in terms of time and service level. At the same time, consumers are also very concerned about personal information protection and food safety issues. Meanwhile, consumers also hope that the delivery platform can pay attention to the distributor's distribution area and the problem of the on-time delivery personnel.

6. CONCLUSION

Under the background of highly developed internet and technological innovation in the delivery industry, this paper studies the types of technological innovation in the delivery platform of Meituan, including information sharing, big data, and online to offline. The research probes into the problem of "what impact does the technological innovation of the American delivery platform have on consumers". In this paper, the delivery industry through the technical innovation of consumers and consumers' acceptance and satisfaction of the theory to sort out, and this paper for the delivery platform of the United States Mission of the use of SWOT analysis, offline and offline connections, and services in online to offline, as well as information sharing and the use of big data, the platform's popularity, and the geographical benefits of technological innovation. This paper finally concludes that the technological innovation of the Meituan Takeout platform has both positive and negative effects on consumers. The use of online to offline of Big Data can make consumers feel more convenient and enjoy better services. However, online stores are not perfect for the authenticity of food pictures, information sharing does not protect consumers' personal information in place, and the areas benefited by the technological innovation are limited to economically developed cities. The contribution of this article's research is to enable consumers to better understand the

technological innovation of the Meituan delivery platform and make the choice of whether to use the corresponding delivery platform. At the same time, it is also hoped that the Meituan delivery platform can continue to maintain positive services and strengthen the improvement of internal and external disadvantages. This article only talks about the technological innovation of the delivery platform of Meituan. In the current Chinese market, there are still many delivery platforms that have made other technological innovations.

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