Role of Perceived ease of use, self-efficacy, product knowledge, perceived usefulness, behavioral intention to use in Online Food Delivery Restaurants in Hunan, China

Zhi Qiu, Panida Ninaroon
Suan Sunandha Rajabhat University, Thailand
Email: s64567810026@ssru.ac.th; panida.ni@ssru.ac.th

ABSTRACT

The research investigated the role of perceived ease of use, self-efficacy, product knowledge, perceived usefulness, behavioral intention to use in online food delivery restaurants in Hunan, China. The conceptual framework was developed from the literature review, survey, and other contemporary research in consumers' behavioral and behavioral intentions. Accordingly, the researchers consider the importance of perceived ease of use, self-efficacy, product knowledge, perceived usefulness, behavioral intention to use of online food delivery restaurants in Hunan, China. In this, the researchers employed the quantitative research approaches. The instruments of research were the steps of a questionnaire. Data were collected from 385 people who are consumer online food delivery restaurants in Hunan, China. The data collected were analyzed using descriptive statistics as mean, standard deviation, and percentage on the basis of observing the actual behavioral intention to use on the online restaurants studied through all operational links in management. Findings are applications of perceived ease of use, self-efficacy, product knowledge, perceived usefulness, behavioral intention to use of are mostly-level.

INTRODUCTION

The reviews of the literature to cite, confirm, summarize, and deduce the theoretical and conceptual framework required for this study, and to serve as a basis for designing research methods. This study uses teenage consumers as the target population, and examine the factors that can influence their behavioral intentions to use self-service ordering technology and their influence paths. This section describes the theoretical foundations used in this study and compares the literature on product knowledge. Perceived ease of use Customer-customer interaction, perceived value and behavioral intentions, define the concept of variables, and propose research hypotheses and Research framework of this study.

The Diffusion of Innovation (DOI) Theory, proposed by E. M. Rogers in 1962, is one of the early social science theories. During the industrial revolution, the pace of innovation accelerated considerably and new products, ideas and technologies began to reach users at a fairly rapid pace. Attention began to be drawn to an interesting phenomenon: why were some new things and ideas recognized and widely used, while others were ignored? The rapid development of society has led scholars to pay attention to the diffusion of innovations.

The concept of innovation diffusion originated in communication as a way to explain how ideas or products gain traction and diffuse (or spread) among a population or social system (Rogers, 2003). Adoption entails a person doing something different from what they used to do (i.e., Buy or use a newly launched product, learn a skill that was not possible before, etc.). The premise of this theory is that individuals need to see the concept, behavior, product or

service they decide to adopt as new and never encountered before. Based on this, Diffusion is possible take place. As a result of diffusion, a social system adopts a new idea, behavior, or product.

Rogers defines diffusion as a process. It is the process of spreading an innovation through a specific channel among members of a social system over time. Therefore, the four elements of diffusion are innovation, communication channels, time and social system (Rogers, 2003).

(1) Innovation

The innovation diffusion theory believes that the characteristics of innovation are the characteristics of innovative things subjectively recognized by users, and the characteristics of innovation influence the speed at which people adopt innovation to a certain extent.

Innovation characteristics mainly include the following 5 aspects:

a) Relative Advantage

The relative advantage of an innovation is its advantage over the method it replaces. There are many objective benefits to an innovation. It is not about whether the innovation is competitive, but whether the individual perceives it to be competitive. An innovation will be adopted more quickly if it has a greater relative advantage. In Rogers' view, comparative advantage can be measured by economic, social, and logistical factors.

b) Compatibility

In the field of innovation, compatibility refers to how well an innovation conforms to existing values, past experiences of potential recipients, and individual needs. Innovations that are incompatible with the social system's values and standards will be adopted much more slowly than their compatible counterparts.

c) Complexity / Easy to use

The complexity of an innovation refers to the ease with which it can be understood or applied. The adoption of an Innovation is easy if it is easily understood by the majority of members of a certain social system. On the contrary, if some innovations are difficult to understand, they are not easy to be adopted.

d) Trialability

The trialability of an innovation refers to whether it can be tested under specified conditions. When an innovation is testable, it is more convincing to those considering adopting it, because people can learn it by hands-on. New technologies, new products, etc. can be tried and utilized by potential users.

e) Observability:

In the realm of innovation, the observability refers to an individual's ability to see the outcome of using an innovation. A person is more probable to adopt an innovation if it is easier for them to observe the results.

(2) Communication Channels

The essence of diffusion is to spread a new method to one person or more people through the process of information exchange. Information is transmitted from one individual to another through the communication channel that connects the various units.

Rogers (1962) believe that there are two main types of communication channels, mass communication channels and interpersonal communication channels. Mass communication is the most effective and influential communication channel. At the same time, interpersonal communication channels are also effective channels for one person to persuade another to accept innovation, especially in the process of communication. Especially when the individuals in the communication process have similar socioeconomic status and educational level. In the process of diffusing and spreading an innovation to a social system, mass communication can be effective in providing knowledge and information about the innovation in the early stages of diffusion and in making it known to a wide range of adopters. Interpersonal communication can play a more direct and effective role in persuading people to accept and use the innovation. Therefore, the best channel for innovation communication is+ a combination of mass communication and interpersonal communication.

Perceived ease of use: Cavusoglu (2019) pointed out the fact that various service-oriented technologies such as electronic ordering menus, mobile ordering and payment methods have become widespread in the context of food services. There has been an increase in the research regarding restaurant technologies. With the use of self-ordering systems and devices, traditional methods will gradually be replaced (Cavausoglu, 2019).

METHODOLOGY

This research is quantitative research in the format is survey research. The research tool was a questionnaire. Data was collected by instrument-based interviews. The scope of the population is Chinese customer who use to order online food delivery restaurants in Hunan, China. The researcher chooses restaurants from the Tencent-owned Meituan, and Alibaba-owned Eleme are the two market leaders when it comes to food delivery in China from 1 July -1 August 2023 which the researcher did not know the exact number during the research. The sampling is 385 people by the formula W.G. Cochran (1953). The selected sample used in this study was for Chinese customer who use to order fast food delivery restaurant in Hunan and use only 2 restaurant on Mondays, Wednesdays, and Fridays for 4 weeks in August 2023, but the exact population was unknown. Therefore, a calculation method was used using the formula W.G. Cochran (1953) at a confidence level of 95% with a tolerance of ± 5%. The researcher used a Descriptive statistics technique to analyze the data by Percentage, Average score (Mean), and Standard Deviation.

RESULTS

Table 1 Personal characteristics of Chinese customer in Hunan, China

Characteristics of Chinese customer	number (n=385)	Percentage
1. Gender		
- Male	220	57.14
- Female	165	42.86

2. Age		
- 18 - 25 Year	114	29.61
- 26 – 35 year	65	16.88
- 36 – 45 year	132	34.29
- More than 46 year	74	19.22
3. Marital status		
- single	128	33.25
- married	141	36.62
- divorced	116	30.13
4. Degree of education		
- lower than bachelor's degree	120	31.17
- Bachelor's degree	126	32.73
- Graduated	139	36.10
5. Working time		
- 1-3 years	133	34.55
- 4-6 years	178	46.33
- More than 7 years	74	19.22
6. Monthly income	-	
- 1000-3000 Yuan	126	32.73
- 3001-5000 Y uan	138	35.84
- 5001-8000 Yuan	121	31.43

From the table1, the perspective of gender, male are significantly higher than female, accounting for 57.14 percentage, and female 42.86 percentage.

Regarding the age of Chinese customer in Hunan, the highest proportion was 36-45 years old, accounting for 34.29%, followed by Chinese customer in Hunan aged 18-25 years and Chinese customer in Hunan aged 26-35 years, accounting for 29.61% and 16.88%, respectively, and Chinese customer in Hunan over 46 years old. Representing 19.22% said that fast food restaurants Chinese customer in Hunan who responded to the survey were generally middle age.

Regarding marital status, 36.62% were single, 33.25% were divorced, and 30.13% were related to the age distribution. The company had many Chinese customer in Hunan.

From the perspective of educational background, Chinese customer in Hunan China generally have lower than bachelor's degree, Bachelor's degree, and postgraduate accounting for 31.17, 32.73 and 36.10% respectively.

From the perspective of working years, the Chinese customer in Hunan China are generally in the range of 1-3 years, 4-6 years of employment, accounting for 34.55 and 46.33 respectively, and the employees who have worked for more than 7 years also account for a certain proportion, 19.22%.

In terms of monthly income, 35.84% of Chinese customer in Hunan China have a monthly income of 3000-5000 Yuan, 31.43% of Chinese customer in Hunan have a monthly

income of 5000-8000 Yuan, and only 32.73% of Chinese customer in Hunan have a monthly income of 1000-3000 Yuan, indicating that the average monthly income of Chinese customer in Hunan has basically reached the middle-income level.

2. Perceived usefulness

Table 2 the level of opinion about the Perceived usefulness

Perceived usefulness	Mean	S.D.	Level	Rank
1. I know that purchasing products through online restaurant platforms is convenient.	4.002	.651	most	5
2. I know that purchasing products through online restaurant platforms is financially safe.	4.337	.601	mostly	2
3. I know that purchasing products through online restaurant platforms will be delivered quickly.	4.446	.597	mostly	1
4. I know that purchasing products through online restaurant platforms receives the correct product according to the order	4.223	.633	mostly	3
5. I like that purchasing products through online restaurant platforms.	4.022	.655	most	4
Total	4.206	.627	most	

From Table 2, the mean and standard deviation of the opinion level of the perceived usefulness variable is at a high level, with the mean value at a mostly level being 4.206. Comprehensive from all aspects, the average of the mostly side is "I know that purchasing products through online restaurant platforms will be delivered quickly", mostly level average of 4.446, followed by "I know that purchasing products through online restaurant platforms is financially safe“ mostly level of average of 4.337, “I know that purchasing products through online restaurant platforms receives the correct product according to the order” mostly level of average of 4.223, “I like that purchasing products through online restaurant platforms”, most level of average of 4.022, the last is "I know that purchasing products through online restaurant platforms is convenient", the average is 4.002, in the most level.

3. Perceived ease of use

Table 3 the level of opinion about perceived ease of use

Perceived ease of use	Mean	S.D.	Level	Rank
1. I find it easy to get online restaurant platforms to do what I want it to do.	4.112	.681	most	5

2. I find that the process of using the online restaurant platforms was clear, understandable and straight forward.	4.102	.634	most	6
3. Browsing through the online restaurant platforms was easy for me.	4.387	.651	mostly	2
4. The online restaurant platforms system is flexible to interact with.	4.211	.657	mostly	4
5. The online restaurant platforms system is easy to switch between pages or functions.	4.448	.611	mostly	1
6. The online restaurant platforms system operates smoothly without lagging	4.226	.591	mostly	3
Total	4.248	.638	mostly	

From Table 3, the mean and standard deviation of the opinion level of the perceived ease of use variable is at a mostly- level, with the mean value at a mostly level being 4.248. Comprehensive from all aspects, the average of the mostly side is "The online restaurant platforms system is easy to switch between pages or functions", mostly level average of 4.448, followed by " Browsing through the online restaurant platforms was easy for me " mostly level of average of 4.387, "The online restaurant platforms system operates smoothly without lagging" mostly level of average of 4.226, "The online restaurant platforms system is flexible to interact with" mostly level of average of 4.211, "I find it easy to get online restaurant platforms to do what I want it to do" most level of average of 4.112, the last is " I find that the process of using the online restaurant platforms was clear, understandable and straight forward ", the average is 4.102, in the most level.

4. Self-Efficacy

Table 4 the level of opinion about after Self-Efficacy

Self-Efficacy	**Mean**	**S.D.**	**Level**	**Rank**
1. I like purchasing products through the online restaurant platforms.	4.111	.582	most	5
2. I purchasing products through the online restaurant platforms rather than in-store.	4.133	.588	most	4
3. I feel that purchasing products through the online restaurant platforms has more products to easy choose from than in the store.	4.212	.576	mostly	3
4. I feel that purchasing products through the online restaurant platforms is more comparable.	4.237	.679	mostly	2
5. I prefer purchasing products through the online restaurant platforms rather than going to buy from the store	4.425	.643	mostly	1
Total	4.224	.614	most	

From Table 4, the mean and standard deviation of the opinion level of the self-efficacy variable is at a most level, with the mean value at a most level being 4.224. Comprehensive from all aspects, the average of the mostly side is "I prefer purchasing products through the online restaurant platforms rather than going to buy from the store", mostly level average of 4.425, followed by "I feel that purchasing products through the online restaurant platforms is more comparable “mostly level of average of 4.237, “I feel that purchasing products through the online restaurant platforms has more products to easy choose from than in the store” mostly level of average of 4.212, “I purchasing products through the online restaurant platforms rather than in-store” most level of average of 4.133, the last is "I like purchasing products through the online restaurant platforms", the average is 4.111, in the most level.

5. Product Knowledge

Table 5 the level of opinion about Product Knowledge

Product Knowledge	Mean	S.D.	Level	Rank
1. I commonly use smart phone.	4.110	.648	most	5
2. I have much experience using technology-based self-services.	4.123	.582	most	4
3. I used a lot of technology-based products and services.	3.994	.642	most	7
4. I am familiar with self-service technology through daily consumption.	4.241	.614	mostly	3
5. I am familiar with self-ordering technology in the restaurant.	4.311	.589	mostly	2
6. I know which of the characteristics of self-ordering technology are most important to me.	4.325	.642	mostly	1
7. I know a lot about self-ordering technologies.	4.107	.652	most	6
Total	4.173	.624	most	

From Table 5, the mean and standard deviation of the opinion level of the product knowledge variable is at a most level, with the mean value at a most level being 4.173. Comprehensive from all aspects, the average of the mostly side is "I know which of the characteristics of self-ordering technology are most important to me", mostly level average of 4.325, followed by "I am familiar with self-ordering technology in the restaurant“ mostly level of average of 4.311, “I am familiar with self-service technology through daily consumption” mostly level of average of 4.241, “I have much experience using technology-based self-services” most level of average of 4.123, “I commonly use smart phone” most level of average of 4.110, “I know a lot about self-ordering technologies” most level of average of 4.107, the

last is "I used a lot of technology-based products and services", the average is 3.994, in the most level.

6. Behavioral intention to use

Table 6 the level of opinion about the Behavioral intention to use

Behavioral intention to use	Mean	S.D.	Level	Rank
1. I intend to continue using this online restaurant platforms rather than discontinue its use.	4.227	.571	most	4
2. My intentions are to continue using this online restaurant platforms than use any alternative means (traditional).	4.112	.539	mostly	5
3. If I could, I would like to continue my use of this online restaurant platforms in the future.	4.458	.556	mostly	2
4. I would recommend this online restaurant platforms to my friends and relatives.	4.564	.652	mostly	1
5. I would say positive things about this online restaurant platforms to other people.	4.332	.587	mostly	3
6. I would encourage friends and relatives to use the online restaurant platforms in the restaurant.	4.109	.675	most	6
Total	4.300	.597	mostly	

From Table 6, the mean and standard deviation of the opinion level of the behavioral intention to use variable is at a mostly level, with the mean value at a mostly level being 4.300. Comprehensive from all aspects, the average of the mostly side is "I would recommend this online restaurant platforms to my friends and relatives", mostly level average of 4.564, followed by " If I could, I would like to continue my use of this online restaurant platforms in the future " mostly level of average of 4.458, "I would say positive things about this online restaurant platforms to other people" mostly level of average of 4.332, "I intend to continue using this online restaurant platforms rather than discontinue its use" mostly level of average of 4.227, "My intentions are to continue using this online restaurant platforms than use any alternative means (traditional)" most level of average of 4.112, the last is " I would encourage friends and relatives to use the online restaurant platforms in the restaurant", the average is 4.109, in the most level.

CONCLUSION

The mean and standard deviation of opinion levels regarding factors affecting behavioral intention to use are at a mostly overall level, with a mostly-level mean at 4.230. From each variable, we found that the mostly average was Behavioral intention to use (4.300), at a mostly level, followed by Perceived ease of use (4.248), at a mostly level, self-efficacy (4.224) at a mostly level, perceived usefulness (4.206), at a mostly level, and the lowest was product knowledge, with an average of 4.173**.**

REFERENCE

Cavusoglu M. (2019). An analysis of technology applications in the restaurant industry. Journal of Hospitality and Tourism Technology 10(1)**,** 210-228

Cochran, W.G. (1953). Sampling Techniques. New York: John Wiley & Sons.

Cronbach, L. J. (1990). Essentials of psychological testing. 5 th ed. New York: Harper & Row.

Kotler, P. (1997). Advance Marketing Management. (9th ed). New Jersey: Prentice Hall.

Porter, M. E. (1976). How Competitive Forces Shape Strategy. Harvard Business Review 57, no. 2 (March–April 1979): 137–145.

Porter, Michael E. (2008). The Five Competitive Forces That Shape Strategy. Special Issue on HBS Centennial. Harvard Business Review 86, no. 1 (January 2008): 78–93.

Wu, R., Liu, M. and Kardes, F. (2021), Aging and the preference for the human touch, *Journal of Services Marketing*, Vol. 35 No. 1, pp. 29-40.

Rogers, E.M. (1962) Diffusion of Innovations. Free Press, New York.