A Study on Consumers’ Discontinuance Intentions towards O2O Commerce: Focused on the Mediating Effects of Perceived Risk and User Resistance

Yong-Shou Chi¹, Moon-Young Kang¹, Kyeong-Seok Han², Jeong-il Choi²

¹ Department of Business Administration, Graduate School of Soongsil University, 369 Sangdo-Ro, Dongjak-Gu, Seoul, Korea
² School of Business Administration, Soongsil University, 369 Sangdo-Ro, Dongjak-Gu, Seoul, Korea
{vinson, kangnmy, kshan, jichoi}@ssu.ac.kr

Abstract. With the development of telecommunication technologies, people can access the internet more immediately and easily at anytime and from anywhere. Along with this, e-commerce industry has also seen various innovations and rapid growth. Recently, a new type of e-commerce defined as O2O (Online to Offline), which combines great customer experience and excellent price competitiveness from offline and online commerce, has become the mainstream. Nevertheless, the O2O global industry is still in its preliminary stage. In terms of domestic O2O industry, except mobile application-based food delivery services, only a few performers show corresponding achievements. This study investigates negative consumer perceptions of the O2O commerce and identifies the causal relationship between user resistance and discontinuance intentions. Conclusions were drawn from empirical analysis using structural equation modeling methodology and survey.

Keywords: Discontinuance Intentions, O2O, Commerce, User Resistance

1 Introduction

With the development of telecommunication and growth of internet users, e-commerce business is showing a rapid growth globally. Shortly after social commerce grew in popularity by supporting creation of relationships among users, communication, and information sharing, a new form of shopping called O2O (Online to Offline) commerce, having both customer experience of offline shops and cost competitiveness of online shops, emerged and is attracting great growing interests.

O2O is gradually dominating over offline commerce throughout different types of online commerce fields. These fields include restaurants, online travel bookings, real estate, ticket purchase, car rental, mobile internet, and electronic vouchers among others. As new services are emerging in different fields, O2O will bring a significant change not only to our lifestyle but also to offline commerce overall.
However, the rapid growth of O2O also introduces different problems in the perspective of customers and businesses. Problems such as excessive cost competition in O2O commerce, decrease in product and service quality, or shortage of supply compared to demand are provoking customer complaints and inconveniences.

In order to resolve such problems, researches that propel not only quantitative growth but also qualitative growth of O2O commerce are necessary. While there have been active researches overseas including the United States and China, there has been a lack of concrete studies on the subject of O2O commerce in Korea.

This research defines the cause and effect relationship among consumers’ negative perception, resistance, and discontinuance intentions through a unique approach that is different from previous studies. The research aims to establish a theoretical basis from which O2O commerce businesses can build their customized marketing strategies, minimizing negative factors that hinder the acceptance and dispersion of O2O commerce among consumers.

2 Literature Review

Privacy concern is a concern that privacy might be lost as the information about oneself is exposed. It is an internal state of each user, varying in intensity based on each user’s personality and expectations for the service level. According to Fusilier’s research[3], those who believed that they were able to control the usage of their information had lower privacy concerns. Lower privacy concerns were also seen when users had control to limit their own information, and when the information collected by businesses was for transactions. Judging from such preceding researches it is necessary to study privacy concerns as an important factor that impedes on the final purchase of a product or service in O2O commerce which holds characteristics of online, offline, and mobile commerce.

As there is no face-to-face interaction in online transactions and the buyer is unable to directly check the product or service, there is an information asymmetry created between the seller and buyer in online commerce. In their study, Wu et al[8] mention the customer decision making model in the perspective that online reviews contain uncertainty. The information asymmetry in product quality and design that occurs in O2O commerce brings uncertainty in product for customers and become an important factor that has a negative influence on purchase decisions.

Annoyance is a negative feeling that a customer has about various forms of stimulation. Batra & Ray[1] claim that annoyance has a negative effect towards attitude but that it can also be reduced when a wide group of customers acquire related information and service when they search for them. Excessive product advertisement and promotion that may be present in O2O commerce can bring annoyance instead of helpful information and in turn cause a negative attitude or intentions towards the purchase.

Information gathered through social relationships such as one’s social group or mass media has a large effect in people’s decision making process. Negative social impact is a measurement of the level of negative influence towards one’s personal attitude or action that other people or communities impose upon one. With the
development of social networking services, sharing of product information and purchase experiences and sheer speed of it is becoming faster and more convenient. In such an environment, it cannot be said that the influence of negative social impact to customers is unsubstantial.

Bauer[2] first introduced the concept of perceived risk in customer action analysis and claimed that customer action is a matter of choice and that risk is accompanied with such choice. His study mentions that perceived risk of the customer is a very important factor in purchase decision making processes and that it has a significant relationship with information seeking actions. The level of risk perceived by the customer is a very important factor for purchases in e-commerce and it is a factor that can have a negative influence on purchase decisions. There are variations in detailed researches on perceived risk but overall it can be summarized as uncertainty and expectation of loss resulting from the choice. It can be said that perceived risk is definitely an important factor that influences overall purchase activity in O2O commerce, a combination of online and offline commerce and the target subject of this study.

User resistance has been studied after Sheth[7] in Innovation Dispersion theory about the psychological state of personal resistance. Ram[5] suggested the Innovation Resistance Model to explain factors that create customer resistance and their relationships. Innovation resistance was defined as the attitude that is created during the innovation acceptance process rather than as a concept opposing previous innovation acceptance and dispersion, in the light that even the person accepting innovation can acquire negative perceptions during usage, processing, and purchase processes. The negative response of resistance does not always appear during the process of change or acceptance but can be created by learning problems that were not first apparent while using the product and therefore can provoke resistant attitude or action towards a continuous usage. Based on the perceived risk theory, Ram[5] saw different forms of risk mentioned above to be important factors that influence the form or success of innovation. It can be concluded that consumers’ negative perception of O2O commerce can be a preceding factor to user resistance.

Rogers[6] claims that innovation resistance increases when there is lower relative benefit and suitability and also when there is higher perceived complexity. However, this resistance can occur not only before acceptance but frequently also after acceptance. Action post acceptance has a form similar to action post purchase in marketing, and is explained through mismatching expectation theory. A customer’s negative psychological experience can exist in various forms and the research aims to study discontinuance intentions and related preceding variables through identifying the positive cause-and-effect relationship that stem from perceived risk and user resistance.

3 Research Model and Hypothesis Development

This research is established on the basis of theory of user resistance in information systems. According to the study by Lapointe & Rivard[4], users of information systems and services perceive risk through interaction with the target system and
service, and this risk then leads to user resistance. As such, through the comprehensive theoretical study of each contributing factor proposed in the 2nd chapter of this research, users’ negative perception of O2O commerce was defined with 4 realms: privacy concerns, information uncertainty, annoyance, and negative social impact. The research model was designed by establishing a comprehensive framework on perceived risk, user resistance, and discontinuance intentions. With the basis of researches mentioned above, the hypothesis is set as follows.

H1: The Privacy Concern has a positive effect to the Perceived Risk.
H2: The Information Uncertainty has a positive effect to the Perceived Risk.
H3: The Annoyance has a positive effect to the Perceived Risk.
H4: The Negative Social Impact has a positive effect to the Perceived Risk.
H5: The Privacy Concern has a positive effect to the User Resistance.
H6: The Information Uncertainty has a positive effect to the User Resistance.
H7: The Annoyance has a positive effect to the User Resistance.
H8: The Negative Social Impact has a positive effect to the User Resistance.
H9: The Perceived Risk has a positive effect to the User Resistance.
H10: The Perceived Risk has a positive effect to the Discontinue Intentions.
H11: The User Resistance has a positive effect to the Discontinue Intentions.

4 Data Analysis and Results

For the empirical analysis of the research a survey was conducted, targeting users who have experience using O2O commerce and live in Seoul. The survey was conducted over 2 months, from February of 2015 to April, using both online and offline channels. 106 and 248 survey results were collected through online and offline channels respectively and excluding 37 that were incomplete or inappropriate, 317 survey results were used for the final analysis. SPSS 22.0 and AMOS 22.0 were used as analysis tools.

To prove the appropriateness of the research model suggested in this study, validity and reliability analysis were completed. Validity checks the level of how closely and accurately a concept or aspect was measured to the actual. In this research, construct validity, which measures how properly a constructed concept was measured, was chosen to measure the appropriateness and exploratory factor analysis was completed for the validity analysis. Through exploratory factor analysis, the relationships of each variable’s inherent factors were examined and the structure of these factors was identified. The factors were defined as meaningful when the Eigen value exceeded 1.0 and factor-loading value exceeded 0.5.

Reliability analysis checks for whether the phenomena or target is measured consistently. The measurement’s credibility can be evaluated by internal consistency, test-retest reliability, alternative-form reliability among others. In this research Cronbach’s Alpha Coefficient, which is used widely in the social sciences field, was used to measure internal consistency and credibility was defined as when the value exceeded 0.7. So it is considered to be appropriate to secure the overall validity and reliability. The results showed satisfying outputs on both credibility and validity that
enabled the research to be proceeded. To prove the hypothesis suggested in this research, a pathway analysis was completed. The summarized results are as shown in (Fig. 1).

![Path Analysis Result](image)

Notes: *p<0.05, **p<0.01, ***p<0.001

Fig.1. Path Analysis Result

Firstly, the negative perception of consumers towards O2O commerce which involves privacy concern, information uncertainty annoyance and negative social impact was shown to have significant influence to the perceived risk. Among those, the privacy concern was analyzed to be the most influential factor ($\beta=0.468$) and annoyance to be the least ($\beta=0.155$).

Secondly, although the information uncertainty and annoyance had direct positive effect to the perceived risk but didn’t influence in user resistance. On the other hand, the privacy concern and negative social impact were analyzed to be the important factors that directly provoke the user resistance. In addition, influence of privacy concern ($\beta=0.211$) was higher than the influence of the negative social impact ($\beta=0.020$).

Thirdly, the perceived risk of consumers towards O2O commerce is an important factor that directly leads to user resistance and consumers’ discontinue intentions. Furthermore, user resistance was shown to have a direct influence on consumers’ discontinue intentions. Compared to the perceived risk ($\beta=0.208$), the user resistance ($\beta=0.311$) was shown to have more effect.

5 Conclusions

Firstly, as hypothesized prior to the empirical test, privacy concern, information uncertainty, annoyance, and negative social effect that have been researched considerably in online, offline, and mobile commerce were all shown to have positive correlations to consumers’ perceived risk. Of the four negative factors mentioned above, privacy concern had the highest influence compared to other factors. In an era of big data, the amount of data is increasing explosively and there has been an increase in victim mentality in consumers who believe that there can be excessive personal information. Therefore businesses that offer O2O commerce services must
choose an approach that demonstrates perfect security of personal information and allows consumers’ own control over information rather than focus on product advertisements and promotions.

Secondly, unlike perceived risk, user resistance was directly affected by privacy concern and negative social impact but not enough to be considered substantial by information uncertainty and annoyance. Among the two influential factors, privacy concern was the most dominant factor that consumers were resistant to, followed by negative social impact. This elicits the need for O2O businesses to develop solutions that concern storage, processing, and usage of personal information and purchase information. The service provider must establish a process that allows information to be controlled by the customer as well as a process that requires customer consent for usage of such information.

Thirdly, consumers’ perceived risk towards O2O commerce and user resistance were shown to both have positive effects on discontinuance intentions, with user resistance being a larger factor. This explains that even a consumer currently using O2O commerce may develop discontinuance intentions if one feels the risk or resistance during the purchase process. In other words, businesses that offer O2O commerce services must be prepared to react to various risk and resistance factors that consumers may experience during O2O commerce in order to maximize customer loyalty and minimize customer churn rate, as there is always risk of customer churn. To minimize these negative influencing factors, businesses must improve various aspects such as control over customer information, quality of product and service, customized service, and perception of the industry itself.

References