

An Empirical Study of Customers' Willingness to Use Offline Channels Under the Background of New Retail

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Abstract. The new retail mode of deep integration of online service and offline experience has become the development direction of China's retail industry. However, few literatures have studied the purchase intention of consumers in the process of e-commerce enterprise shifting from online to offline. Based on the innovation diffusion theory and trust transfer theory, this paper constructs a conceptual model of the formation mechanism of consumers' adoption intention in offline channels, analyzes the influence of online channel trust and customer experience quality on consumers' adoption intention in offline channels, and uses structural equation model to verify the following conclusions: (1) customers' trust in online channels significantly affects the customer experience quality and willingness to use offline channels; (2) customer experience quality have a positive impact on the adoption attitude of offline channels; (3) customers' attitude toward the use of the offline channel can significantly affect their willingness to adopt the offline channels.

Keywords: online to offline; innovation diffusion theory; trust transfer theory; structural equation model; purchase intention of consumers.

1. Introduction

In the era of consumption 4.0, consumers are more in pursuit of emotional and social goods and services, traditional shopping channels have been unable to meet the needs of the consumers. The popularity of mobile Internet and the big data technology, the rising cost of acquiring customers for e-commerce platforms and the low efficiency of traditional physical stores have called for the birth of new retail formats. E-commerce giants take the lead in the new journey. They provide consumers with more diversified in-store services and door-to-door services by laying out offline physical resources, and build a new retail ecosystem by using data resources of online shopping malls. Therefore, this paper explores the formation mechanism of consumers' willingness to use offline channel, and provides theoretical basis for the development of retail channels of enterprises.

From the perspective of online and offline, wu jinfeng et al. studied how the integration of multi-channel affects the rights and interests of the retailers [1]; Jie Zhang et al. discussed the favorable and restrictive factors of enterprises to develop multi-channel retail [2]. The above literature focuses on enterprises. The literature from the perspective of consumers pays more attention to the consumer channel choice intention; Guo yan et al. analyzed how the channel attributes, channel synergy and channel locking affect customers' search intention and purchase intention [3]. Baal and Dach examined the effects of the search features for items, technical change rate and purchase frequency in the multi-channel retail environment on the free-rider rate and retention rate of cross-channel consumers [4]. Through literature review, it is not difficult to find that most of the existing studies start from the online channel expansion to explore the influencing factors of consumer behavior, so there is a lack of research focusing on the expansion of offline channels.

In the research on consumers' channel expansion behavior, the trust transfer theory is widely used. Some scholars have found that consumers' experience in using offline channels or purchase attitude will have an impact on the willingness to use online channels of the enterprise [5-6], but other scholars have reached the opposite conclusion [7-8]. Therefore, it is significant to study whether and how consumers' experience and trust in online channels will affect their trust and willingness to use offline channels. In addition, the multi-channel retail environment consumer behavior studies pay more attention to the retailer attributes, channels attribute and product attribute, lack of research that considers customer value [9].

The contributions of this paper are as follows. Firstly, based on the offline channel expansion, this paper analyzes how consumers' trust in online channels affects their attitude and intentions to use offline channels. Secondly, the concept of customer experience quality is introduced to analyze the formation mechanism of channel use intention through the measurement of consumers' perceived value of new channels. Thirdly, this paper pays attention to the improvement of customer value and build a logical framework of multi-channel retail system by integrating innovation diffusion theory and trust transfer theory.

2. Theoretical Background and Research Hypothesis

2.1 The Conceptual Model

The era of experience economy has come, and "experience" has become the key for enterprises to build differentiated competitive advantages. The perceived evaluation of customer experience is the customer experience quality [10], and the evaluation affects customer's recognition of products and services. According to the theory of rational behavior, this paper think that customer experience quality will affect customer perception and evaluation results, then resulting in a specific behavior intention. In addition, Kim's extended technology acceptance model is more suitable for the Internet economy environment, the improvement of usefulness, ease of use and interest perception will significantly affect consumers' behavioral attitudes and intentions[11].Further, based on innovation diffusion theory, many scholars have proved that the relative advantage, compatibility and complexity can best explain the individual's acceptance of new things[12-13].Therefore, this paper takes the perceived usefulness, perceived ease of use, perceived interest and perceived compatibility as the evaluation dimensions of customer experience quality in the multi-channel retail environment, and constructs the conceptual model of the willingness to use offline channels according to the basic ideas of the trust transfer theory.

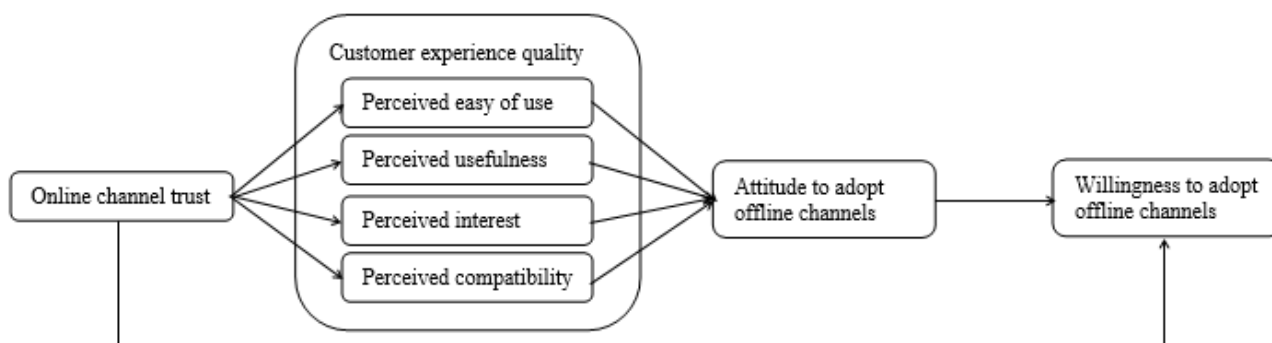


Figure 1. The conceptual model

2.2 Research Hypothesis

2.2.1 Online Channel Trust and Customer Experience Quality

Trust transfer is a cognitive process, which can be divided into intra-channel trust transfer and inter-channel trust transfer. This study focuses on the later one. According to the trust transfer theory, customers' trust in the original channel will have a positive impact on the willingness to use the extended channel, and studies have confirmed the transfer of trust from offline channel to online channel [14-15]. Meanwhile, trust will promote customer's evaluation and perceived value [16]. Therefore, in the multi-channel retail environment, trust in online channels of retailers will generate a favorable impression on customers, which will affect their evaluation of customer experience quality in offline channels. Therefore, this paper proposes the following hypothesis:

H1a: customers' trust in online channels positively influences their perceived usefulness of offline channels

H1b: customers' trust in online channels positively influences their evaluation of perceived ease of use in offline channels

H1c: customers' trust in online channels positively influences their evaluation of perceived interest of offline channels

H1d: customers' trust in online channels positively influences their evaluation of perceived compatibility with offline channels

H2: customers' trust in online channels positively influences their willingness to use offline channels

2.2.2 Customer Experience Quality and Willingness to Adopt Offline Channels

Perceived usefulness and perceived ease of use is the core concept to accept innovation system for individuals. The existing studies have shown that the above two will affect consumer channel selection behavior [12]. The purpose of developing offline channels for E-commerce enterprises is not only to make up the time and space limitation of online channels, but also to improve the adoption willingness of customers through more multidimensional shopping experience. Therefore, this paper proposes the following hypothesis:

H3a: perceived usefulness of offline channels positively influences customers' attitude to adopt offline channels

H3b: perceived ease of use of offline channels positively influences customers' attitude to adopt offline channels

There are also many scholars introduced perception interest to study user acceptance of innovation system. Perceived interest mainly refers to the degree of pleasure users feel in the process of interacting with the system. Studies have shown that perceived interest significantly improves attitudes toward retailers [17]. Therefore, this paper put forward the following hypothesis:

H3c: perceived interest of offline channels positively influences customers' attitude to adopt offline channels

According to the innovation diffusion theory, compatibility is defined as the degree of matching with users' values, needs, experience and other aspects with the innovation system. Lei-da Chen et al. found that compatibility would affect consumers' attitudes towards online shopping [10]. Therefore, the higher the matching degree between consumers' perceived offline channels and their own needs, the better their attitude towards the adoption of offline channels will be. Therefore, this paper put forward the following hypothesis:

H3d: perceived compatibility of offline channels positively influences customers' attitude to adopt offline channels

2.2.3 Attitude and Willingness to Adopt Offline Channels

Attitude is a stable psychological tendency generated by the individual's subjective evaluation of specific objects; willingness is the intensity of an individual's desire to achieve a goal [18]. According to the rational behavior theory, the individual's attitude to things will affect their behavioral intention. Wu jinfeng et al. also confirmed that consumers' adoption attitude to the multi-channel retail system will directly affect their adoption intention [8]. Therefore, this paper put forward the following hypothesis:

H4: customers' attitude towards the use of offline channels will positively influence their willingness to use offline channels

3. Research Method

3.1 Measurement of Variables

In this paper, the questionnaire was created and released by Questionnaire Star and divided into three parts. The first part is the basic information of the sample. The second part is the main part of the questionnaire. All variables in the model are measured in the form of a seven-point Likert scale. The third part is an open question, respondents can state their doubts and suggestions. The items of measurement are all derived from the existing literature, so the content validity of the questionnaire is guaranteed. The measure terms of trust in online channel come from Morgan and Huntcomes [18];

the perceived ease of use, perceived usefulness and perceived interest come from Rintamaki et al [19];the perceived compatibility come from Moore and Benbasat[20];the measure terms of attitude and intention come from Karahanna [21] and Wu Jinfeng[8].The questionnaire was first reviewed by teachers in the relevant fields, then,30 students in our university were invited to participate in the pre-test of this paper.

3.2 Data Collection

In this survey, a total of 381 questionnaires were collected, among which 32 were from star interactive community, the rest were from WeChat, and QQ. 363 valid questionnaires were finally obtained. The sample structure of this survey is shown in table 1.

Table 1. Descriptive statistics of the sample.

Variable name	Statistical characteristic	Frequency	Percentage
Gender	male	169	46.56%
	female	194	53.44%
Age	Under 18 years old	26	7.16%
	18-25	138	38.02%
	26-30	101	27.82%
	31-40	56	15.43%
	Above 40 years old	42	11.57%
Educational level	Bachelor or below	108	29.75%
	Bachelor	189	52.07%
	Master or above	66	18.18%
Monthly income	Full-time student	97	26.72%
	Under 3000	34	9.37%
	3000-4500	58	15.98%
	4500-6000	119	32.78%
	Above 6000	55	15.15%

4. Data Analysis and Results

4.1 Reliability and Validity

To test the scale reliability for each dimension, we computed the Cronbach's alphas, which range from 0.897 to 0.916. Thus, we confirm the internal consistency of the measure.

To examine the construct validity of the measurements, we conducted a confirmatory factor analysis(CFA) using AMOS 23.0.We obtained a RMSEA value of .055, less than .08.And the value of NFI, RFI, IFI, TLI, CFI are all higher than .9 and close to .95, indicating that the model has good goodness of fit and adaptability. We also examined the convergent and discriminant validity for construct validity. The AVE value of each construct is greater than .6, so the convergent validity of this study is acceptable, And the square root of AVE of each construct on the diagonal is greater than its correlation with all other constructs, so this study has sufficient discriminant validity.

4.2 Hypothesis Testing

In this paper, AMOS23.0 software is used for path analysis of sample data. We obtained a chi-square/degrees of freedom index ($\chi^2/d. f.$) of 2.083, NFI of .947, CFI of .972, RFI of .938, IFI of .972, TLI of .967, and RMSEA of .048. These values suggest an adequate fit of the model to the data.

Table 2 lists the standardized path coefficient and P value. It can be seen that online channel trust has a significant positive impact on customer experience quality and adoption intention of offline channels, so hypothesis 1 and hypothesis 2 are supported. And customer experience quality has a significant positive impact on the adoption attitude of offline channels, so hypothesis 3 is supported.

Finally, consumers' adoption attitudes of offline channels also have a significant positive impact on their adoption intentions, so hypothesis 4 is also supported.

Table 2. Main effect hypothesis test results.

Hypothesis	Hypothesized paths	Normalized path coefficient	P-value	Conclusion
H1a	Trust in online channels→perceived usefulness	0.79	***	Support
H1b	Trust in online channels→perceived easy of use	0.83	***	Support
H1c	Trust in online channels→perceived interest	0.79	***	Support
H1d	Trust in online channels→perceived compatibility	0.83	***	Support
H2	Trust in online channels→intention to adopt offline channels	0.58	***	Support
H3a	perceived usefulness→attitude to adopt offline channels	0.14	*	Support
H3b	perceived easy of use→attitude to adopt offline channels	0.23	***	Support
H3c	Perceived interest→attitude to adopt offline channels	0.27	***	Support
H3d	Perceived compatibility→attitude to adopt offline channels	0.31	***	Support
H4	attitude to adopt offline channels→intention to adopt offline channels	0.30	***	Support

5. Research Conclusion and Discussion

5.1 Research Conclusion

Customers' trust in enterprises' online channels significantly affects the customer experience quality and willingness to use offline channels. If the customer has a positive purchase experience in the original channels of the enterprise, the existing trust will reduce customer distrust of offline channels. For example, the membership rights and interests of SUPER VIP in Suning shopping mall can be used in the offline Suning store. This way will significantly affect the perceived usefulness and perceived compatibility of customers. In addition, when consumers notice a small store with a familiar brand on their doorstep, which provides more products or experience activities than ordinary chain stores, the perceived ease of use and perceived interest of customers will be affected. Therefore, enterprises should not neglect the construction of online channels when laying out offline physical resources.

Customer experience quality has a positive impact on the adoption attitude of customers in offline channels, among which perceived compatibility has the largest impact. Customer experience fundamentally determines consumers' preferences, thus influencing their willingness to use and purchase decisions [22]. Brick-and-mortar stores within three kilometers and distribution services within half an hour are in line with consumers' shopping habits and lifestyle, which will make customers feel the high matching degree between offline channels and their needs; product recommendation services based on historical transaction information and real-time mobile location services can make it easier for customers to obtain product information.

Consumer attitude toward the use of the offline channel can significantly affect their willingness to adopt the channels, which are consistent with previous scholar's research. The more positive an

individual's attitude towards things or behaviors is, the more obvious his behavioral intention will be [23].

5.2 Enlightenment

Strengthen brand awareness and improve the marketing environment of online shopping channels. How new stores attract and retain consumers largely depends on customers' trust in the original channels of enterprises, as well as their consumption habits and experience on e-commerce platforms. Therefore, enterprises should not neglect the construction of online channels while actively laying out offline resources. Electricity giants can use their own online shopping mall transaction data to identify differences of the consumer in different areas, then they can meet the purchase needs of local consumers and provide more value-added services.

Create the ultimate experience through online and offline collaborative marketing. The biggest advantage of online channels lies in the efficiency of information flow. Consumers can obtain comprehensive information quickly and at low cost. Similarly, enterprises can also obtain consumers' personal characteristics such as transaction information and consumption habits based on e-commerce trading platforms. Instead, the biggest advantage of offline channels lies in experience. Consumers can get more complex and multi-sensory information, and enterprises can also deepen the impression of brands in consumers' minds and strengthen their brand recognition through offline channels.

Adjust measures to local conditions and precisely match community consumer groups. Consumers in different regions have different consumption characteristics and preferences. The layout and construction of brick-and-mortar stores must be based on the identification of such differences, so as to match consumers' purchase needs and lifestyles. For example, the small Suning Store near the enterprise park provides customers with a simple in-store catering service, which provides a convenient and affordable dining option for employees in this park. Tmall stores use the powerful data analysis ability of Tmall to accurately identify the consumption characteristics of each community, and recommend the store owners to buy more related products. Refined marketing and differentiated operation can not only help enterprises reduce inventory to achieve precision marketing, but also match customers' needs, generate brand recognition and trust among consumers, shape their buying habits and become loyal users of enterprises.

5.3 Limitations and Future Research Prospects

First, this paper takes the development of new retail as the background, from the perspective of customer experience value to investigate consumers' willingness to channel used. Because the core of new retail is to improve the efficiency of retail by creating omni-channel, so further research can be conducted from the perspective of enterprise integration channels. Second, the brick-and-mortar stores that are emerging now have different development situations in different regions, the number of shops in the first-tier cities is far more than that in the third-tier cities. In addition, the price of commodities, especially fresh food, is higher than that of traditional vegetable market and seafood market, so future research can consider taking region and income as control variables to investigate consumers' adoption behavior. Third, the development goal of brick-and-mortar stores is to create a life consumption circle with community, so consumers' consumption concepts and consumption patterns are easily affected by the people around them. In future studies, subjective norms and community influence can be incorporated into antecedent variables to improve the explanatory power of the model.

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