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The influence of multi channel collaborative experience on the consumer's repurchase intention on the online to offline

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Abstract. Multi channel coordinated development of enterprises has become Internet plus the era of key issues, in view of the current shortage of Internet O2O development mode to experience online and offline experience fragmented research, exploring online and offline multi channel collaboration experience influence on consumer repurchase intention. Through the online survey of O2O platform catering consumers, obtain 415 valid questionnaires, the results show that the online and offline multi channel collaboration experience on the midline of attraction, convenience, personal contact experience, shopping experience and complaint handling experience have significant influence on customer satisfaction, and Consumer satisfaction have intermediary effect on the online and offline collaborative experience and consumer's repurchase intention.

Key words. Online to offline, Online and offline collaborative experience, Consumer's repurchase intention.

1. Introduction

With the development of mobile internet and increasingly fierce competition in the enterprise market, more and more offline enterprises have expanded their marketing channels through the internet and started multi-channel operation. In the process of online and offline integration, many enterprises only use the internet as a marketing channel, failing to build an online and offline collaborative information network, management and operation, marketing resources, market, logistics and delivery system, and innovative experience. As a result, it cannot do well in integration of physical store channels, e-commerce channels and mobile e-commerce channels and cannot provide customers with an undifferentiated shopping experience

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in all channels. In the implementation of multi-channel operation modes, enterprises still take "marketing activities" as a core, failed to truly take "consumer experience" as the core. From online to offline O2O multi-channel business model, all the contact or use processes related to products and services are the process of consumers' experience, manifested in the collaborative online and offline experience. How to improve the synergy of consumers 'online and offline experience and then promote consumers' willingness to repeat purchase has become the key point to improve the multi-channel competitiveness and sustainable development capability of enterprises in O2O mode. Ran-gaswamy & Van Bruggen pointed out that the increasing multi-channel characteristics of customer purchasing behavior require enterprises to better understand customers 'decision-making process and adopt new methods to enhance customers' multi-channel experience to improve their satisfaction and loyalty. Therefore, a systematic study of the consumer online and offline multi-channel collaborative experience on consumer satisfaction and consumer repurchase will affect the mechanism to expand the theoretical study of the online and offline multi-channel business model and the customer repurchase intension.

2. Relevant theoretical summary and proposed assumptions

2.1. Assumptions about the relationship between O2O online experience and consumer satisfaction

The O2O model combines offline business opportunities with the internet to make the internet become a foreground for offline transactions, so the online experience is an important part of the O2O experience. Szymanski and Hise (2000) studied the effect of convenience, product information, website design and security on the online consumer satisfaction and found that convenience has the greatest effect on consumer satisfaction. Cha Jinxiang and Wang Lisheng (2006) Research on consumer satisfaction of online shopping shows that online security, price advantage and convenience all have a positive effect on consumer satisfaction. Based on the above literature analysis, the O2O model online experience selected two dimensions of attraction and convenience, and the attractiveness is that the O2O platform provides relevant product information and marketing information to draw the attention of consumers. The stimulation of product richness and limited time promotion price in online O2O platform can effectively draw the attention of consumers and enhance the satisfaction of consumers in online consumption. The convenience, not only means that reducing the time spent by consumers on queuing payments using the O2O platform to place orders and payments convenience, but also greatly increasing consumer satisfaction with online services. Based on the above analysis, the following assumptions are made on the existing relationship between online experience and consumer satisfaction under the O2O model:

H1: Online experience in O2O mode has a significant positive effect on consumer satisfaction.

H1-1: Attractiveness of online experience in O2O mode has a significant positive effect on consumer satisfaction;

H1-2: Convenience of online experience in O2O mode has a significant positive effect on consumer satisfaction;

2.2. Assumptions about the relationship between O2O offline experience and consumer satisfaction

The offline experience in O2O mode includes the personal contact experience, and the personal contact experience is the quality of service experienced by consumers and service personnel in their communication and reception. In the offline store environment, consumers and service staff in the service process will have an interactive experience, and service personnel affinity, service level and service awareness and other aspects will affect the perceived effect of consumers, thereby affecting consumer satisfaction. The shopping environment experience means the environmental conditions that consumers have experienced in the physical store, and a good environmental experience will enhance customer satisfaction. The complaint handling experience means that whether the problems found by consumers in the process of consumer spending in the store can be quickly responded and the attitude is decent and the problems encountered can be solved. Consumers will complain to the staff when they encounter problems during the process of purchasing goods or receiving services in offline stores, and the handling process of consumer complaints will affect the consumers' experiences and thus affect the satisfaction of consumers. Based on the above analysis, the following assumptions are made on the existing relationship between offline experience and consumer satisfaction under the O2O model:

H2: Offline experience in O2O mode has a significant positive effect on consumer satisfaction.

H2-1: Human contact experience in O2O mode has a significant positive effect on customer satisfaction;

H2-2: Shopping environment experience in O2O mode has a significant positive effect on customer satisfaction;

H2-3: Complaint handling experience in O2O mode has a significant positive effect on customer satisfaction;

2.3. Assumptions about the relationship between consumer satisfaction and consumer repurchase intention in O2O online and offline multi-channel collaborative experience

Chen Mingliang (2003) argued that repurchase intention is a reliable psychological predictor of consumer repurchase behavior. Based on this, he also identified two decisive factors of consumer repurchase intention through exploratory research: consumer satisfaction and loyalty, and put forward the theoretical model of consumer re-patronage intention, also pointed out that customer satisfaction and loyalty will increase with the increase of the number of consumer repurchase. The satisfaction index model proposed by Liao Yinglin (2008) also took the repurchase intention as the outcome variable of consumer satisfaction. Ma Yong (2006) constructed the matrix of "Customer Satisfaction - Customer Regret" and explained how to control the

"Customer Repurchase Tendency". Therefore, the satisfaction can be taken as the causal variable of the consumer repurchase intention. The higher customer satisfaction in online and offline multi-channel collaborative experience in O2O mode will make consumers be more willing to consume on the O2O platform and thus generate higher O2O Platform consumer repurchase intention. Therefore, the following assumptions are made on the existing relationship between consumer satisfaction and consumer repurchase intention in the O2O model: H3: Satisfaction of online and offline consumer collaborative experience in the O2O model has a significant positive effect on the consumer repurchase intention.

2.4. Intermediary role assumption for consumer satisfaction

Oliver (2006) defined the consumer satisfaction as the satisfaction of consumers to products or services in the purchasing process. The consumer satisfaction can be an attitude-focused reflection of whether or not consumers can achieve their goals when purchasing products or services from O2O providers. Wang Chunxiao (2007) constructed the conceptual model of consumer experience, consumer satisfaction and consumer repurchase intention, and argued that the actual perception of consumers will lead to enhance the consumer experience, thereby enhancing consumer satisfaction, and thus indirectly affect consumer repurchase intention. Under the O2O model, the higher the satisfaction of online and offline multi-channel collaborative experience, the more effect consumers' intention to repurchase will be. Therefore, the following assumptions are proposed: H4: customer satisfaction plays an intermediary role between O2O online and offline multi-channel collaborative experience and consumer repurchase intention. Based on the above theoretical analysis and research assumptions, a theoretical model of the effect of online and offline multi-channel collaborative experience on consumer repurchase intention in O2O mode is established in this paper (see Figure 1).

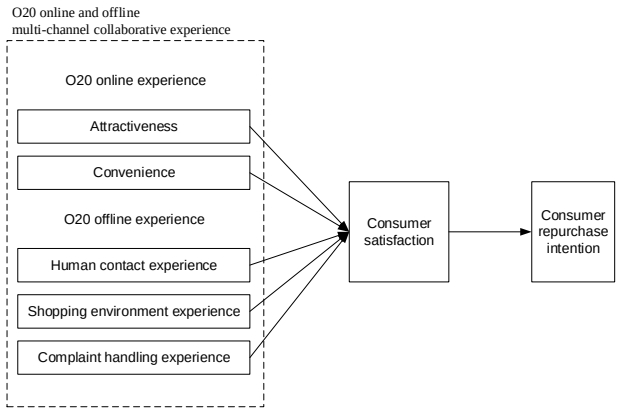

Fig. 1. Theoretical model of the study

3. Research design

3.1. Scale design

Table 1. Measurement items and sources of each latent variable

Latent variable	Measurement items	Reference source
Attractiveness of O2O online experience	ATT1. Various forms of food in O2O catering platform	Terblanehe and Boshoff (2006)
	ATT2 often have promotional activities with rich promotion forms in O2O catering platform	
Convenience of O2O online experience	CON1. The O2O catering platform APP is easy to use	Kim (2005)
	CON2. The desired restaurant can be quickly found using O2O catering platform	
	CON3. Easy to operate and saves time and effort	
Human contact experience of O2O offline	HCE1. Staff at offline restaurants focus on my personal needs	(2004)
	HCE2. Staff at offline restaurants are ready to help	
	HCE3. When I have a problem with an offline restaurant, their staff always provide me with timely and convenient service	
Shopping environment experience of O2O offline	SEE1. Offline restaurant store decoration is very good	Wu and Liang (2009)
	SEE2. The in-store facilities at the offline restaurants attract me	
Complaint handling experience	CHE1. Offline restaurants can effectively handle customer complaints	Yu Juan (2013)
	CHE2. Customer complain handling process of offline restaurants are fair	
	CHE3. High efficiency in handling customer complains by offline restaurants	
Consumer satisfaction	CS1. Overall, I am satisfied with the O2O catering platform	Chiu et al (2009)
	CS2. I am satisfied with the experience of the consumer process across the O2O platform	
	CS3. The O2O catering platform fits my needs well	
	CS4. I am very satisfied with the service process of O2O catering platform	
Consumer repurchase intention	CRE1. I will consume again at this O2O dining platform	Lee and Lin (2005) Parasuraman (2005)
	CRE2. I will recommend this O2O catering platform to my friends and relatives	

In order to verify the theoretical model proposed previously, this research takes O2O catering platform which is developing rapidly in recent years as the research object, and conducts a survey on consumers who have used O2O catering platform. The number of O2O online users in China's catering industry reached 293 million in 2017. The O2O market in the catering industry has drawn extensive attention. Taking the O2O platform in the catering industry as an example, it has strong representativeness and application value. Measurement scale reference related literature at home and abroad, and then O2O catering platform to make the appropriate changes and additions. The measurement scale references related literature at home and abroad, and then makes the appropriate modification and supplement based on the O2O catering platform. The measurement items and sources of each latent variable are shown in Table 1. All questions use Likert Scale 5 ("1" means "strongly disagree", "2" means "disagree", "3" means "neither disagree nor agree", "4" means "agree", "5" Means "strongly agree").

3.2. Sample data

The questionnaire is the method used to collect data in this study. The main channel for issuing questionnaires is the internet channel. The data collection will be conducted and completed in October 2016. In this survey, a total of 450 questionnaires were retrieved. Among them, 35 were excluded due to their consistency, 415 were valid and the effective rate was 92.2%. And SPSS20.0 is used to sort out and analyze. The analysis shows that the O2O catering platform with the largest base of consumers is the Meituan, accounting for 91.5% of the total; the consumers who contact the 1-2 year O2O catering platform account for 40.7% and the number of consumption 2-3 times a month account for 27.7%.

Sample basic information includes consumer gender, age and other four aspects: (1) in the aspect of gender, male accounted for 42.1%, female accounted for 57.9%; (2) in the aspect of age, the survey respondents are mainly 21 to 30-year-old groups , accounting for 75.2%, and the Post-80s and 90s generation gradually become the main force of consumer groups, and more dependent on the online consumption model; (3) in the aspect of education level, most are college / undergraduate degrees, accounting for 85.4% of higher education (4) in the aspect of occupation, the respondents are mainly college students, accounting for 83.5%, followed by enterprises / employees, accounting for 10.65%. The sample basic information includes consumer gender, age and other aspects, and the sample characteristics descriptive statistics are shown in Table 2.

Table 2. Descriptive statistics of sample characteristics

Items	Categories	Number of times (person)	Percentage (%)	Cumulative percentage (%)
Gender	Male	175	42.1	42.1
	Female	240	57.9	100.0
Age	Under 20 years old	93	22.4	22.4
	21-30 years old	312	75.2	97.6
	31-40 years old	5	1.2	98.8
	41 years old and above	5	1.2	100.0
Education level	High school, technical secondary school / vocational school	14	3.3	3.3
	College/Bachelor degree	395	95.4	98.7
	Master	4	.9	99.6
	PhD or above	2	.4	100.0
Occupation	School student	346	83.5	83.5
	Business / company staff	44	10.6	94.1
	Public institution / Party and government organizations staff	8	1.9	96.0
	Individual operator / self-employed	8	1.9	97.9
	Others	9	2.1	100.0

4. Research result

4.1. Scale reliability test

In this study, Cronbach's α coefficient is used as a measure of reliability. As shown in Table 3, the α coefficients of all the test items are higher than 0.7, and the Cronbach 's coefficient in the total scale is 0.903, which achieves a better reliability level. Therefore, the internal variables of the variables have higher reliability and internal consistency, and the data can be further analyzed.

Table 3. Reliability analysis results

Measurement variables	Number of items	Cronbach's α
Attractiveness	2	0.769
Convenience	3	0.869
Human contact experience	3	0.863
Shopping environment experience	2	0.889
Complaint handling experience	4	0.918
Customer satisfaction	4	0.925
Consumer repurchase intention	2	0.768
Total scale		0.903

4.2. Validity analysis

In this paper, the Bartlett sphericity degree test and KMO test statistic are adopted to analyze the validity of the sample, the KMO test statistic of sample data is $0.945 > 0.9$, indicating that the sample is very suitable for factor analysis; Bartlett sphericity degree test Sig value is $0.000 < 0.05$, indicating that correlation among each variables, and the factor analysis is valid. In this paper, according to the method of factor validity test, the principal component factor analysis is performed on the data by the maximum variance rotation method. The principal component analysis of rotation is shown in Table 4. A total of seven factors are proposed in the analysis, a total of 79.905% cumulative explanation of the variance. All measure items have higher load on the relevant factors, and the cross load is low, which shows the good convergence and discriminant validity of the samples. Since the data is collected through a self-reporting scale, this paper shall examine the common method bias. According to the results of Harman's single factor analysis, the number of common factor precipitation is greater than 1, and the first common factor explains variance ratio is 14.539, accounting for less than 20% variance explained, so the effect of common method bias can be neglected.

Table 4. Sample data rotation factor

	Component						
	1	2	3	4	5	6	7
SC1	**.747**	.292	.224	.179	.231	.112	.135
SC2	**.728**	.315	.273	.149	.232	.140	.172
SC3	**.706**	.248	.241	.182	.251	.181	.258
SC4	**.693**	.307	.262	.196	.249	.149	.200
CHE1	.169	**.819**	.213	.202	.209	.096	.156
CHE2	.300	**.750**	.266	.218	.091	.097	.083
CHE3	.302	**.742**	.306	.202	.202	.071	.158
CHE4	.402	**.653**	.237	.210	.155	.127	.120
SEE1	.220	.214	**.826**	.201	.084	.093	.095
SEE2	.252	.169	**.760**	.287	.107	.110	.014
HCE1	.150	.123	.269	**.809**	.173	.031	.151
HCE2	.202	.194	.226	**.771**	.203	.086	.097
HCE3	.114	.307	.187	**.765**	.112	.177	.067
CON1	.153	.204	.162	.136	**.804**	.172	.171
CON2	.217	.139	.162	.204	**.792**	.213	.070
CON3	.375	.157	.146	.176	**.719**	.226	.007
ATT1	.090	.048	.062	.087	.263	**.853**	.080
ATT2	.210	.162	.146	.124	.170	**.822**	.082
CRE1	.263	.180	.140	.260	.078	.120	**.795**
CRE2	.399	.269	.328	.012	.222	.107	**.665**
Eigenvalues	11.163	1.704	1.331	1.020	.892	.868	.601
Variance explained rate	14.539	14.316	14.206	11.437	11.276	8.030	6.103
Cumulative variance explained rate	14.539	28.855	43.061	54.497	65.773	73.803	79.905

4.3. Structural model

In this paper, the AMOS software is used to test the hypothesis of structural equation model, firstly the Goodness-of-Fit of structural equation model shall be tested (see Table 5). All the indicators of the model fitting are within the recommended standard, which is an acceptable level, indicating that the model and the data fit well.

Table 5. Fitting goodness indicators of structure equation model

	χ^2	df	χ^2/df	CFI	NFI	GFI	AGFI	RMSEA
Model	582.12	231	2.52	0.93	0.92	0.91	0.85	0.06
Recommended standards	—	—	< 3.0	> 0.90	> 0.90	> 0.80	> 0.80	< 0.08

Next, the structural model path test is performed, including estimating the path coefficient and the corresponding T value. The specific result is shown in Figure 2. Among them, the five dimensions of O2O online and offline multi-channel collaborative experience (attractiveness, convenience, human contact experience, shopping environment experience, complaint handling experience) have significant positive effects on the customer satisfaction, assuming H1-H2 are confirmed. The consumer satisfaction also has a significant positive effect on consumer repurchase intention ($\beta = 0.676$, $t = 21.768$), assuming H3 was confirmed.

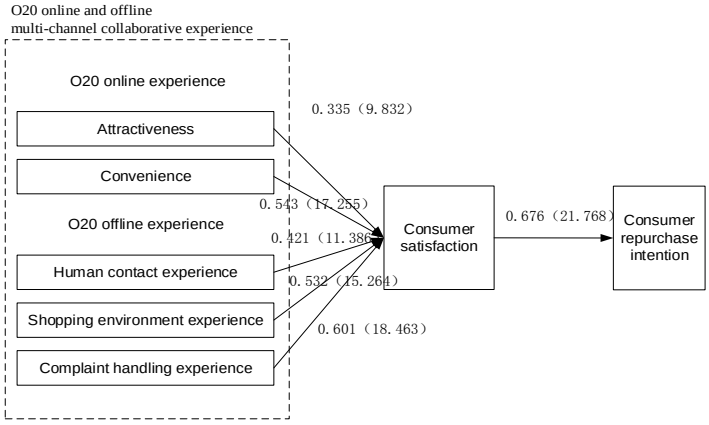

Fig. 2. Results of model fitting

4.4. Intermediate effect test

In this paper, the Baron & Kenny's method is used to conduct regression analysis and test, and the first step of four independent regression analysis is required to be completed. The antecedent variables must be significantly related to the final de-

pendent variables; in the second step, the antecedent variables must be significantly related to the intermediary variables; in the third step, the intermediate variables must be significantly correlated with the final dependent variables. Finally, after the intermediate variables is added to the regression model, the significant relationship between the antecedent variables and the final dependent variables will completely disappear or weaken, while the intermediate variables are still significantly related to the dependent variables. The results of the four steps are summarized in Table 6:

Table 6. Consumer satisfaction with the intermediate test

	Independent variables and dependent variables	Independent variables and consumer satisfaction intermediate variables	Consumer satisfaction intermediate variables and dependent variables	Consider consumer satisfaction with intermediate variables
Attractiveness	0.372***	0.453***		0.061
Convenience	0.485***	0.651***		0.037
Human contact experience	0.480***	0.550***		0.126**
Shopping environment experience	0.584***	0.665***		0.196***
Complaint handling experience	0.610***	0.742***		0.181***
Customer satisfaction			0.713***	0.508***

Note: * means a significant difference (Sig <0.05); ** means a significant difference (Sig <0.01); *** means a significant difference (Sig <0.001).

The results of the first step of the regression analysis show that the five dimensions of O2O online-offline multi-channel collaborative experience have a significant effect on consumer repurchase intention. The results of the second step of the regression analysis show that all five dimensions have a significant effect on consumer satisfaction. In the results of third step of the regression analysis, the effect of consumer satisfaction of intermediate variables on the consumers repurchase intention of dependent variables is significant. Finally, the effect of attractiveness and convenience on consumer repurchase intention is from significant to insignificant after adding consumer satisfaction intermediate variables, indicating that the consumer satisfaction fully intermediated the effect of these two O2O online experience dimensions on the consumer repurchase intention. In addition, the effect of human contact experience, shopping environment experience and complaint handling experience on consumer repurchase intention is still significant. However, compared with the results of the first step of the regression analysis, the standardized regression coefficients of these three dimensions are redcued from 0.48, 0.584 and 0.610 to 0.126, 0.196 and 0.181, respectively, indicating that the consumer satisfaction partially intermediated the

effect of the O2O offline experience on consumer repurchase intention. Therefore, the assumption of H4 is established.

5. Research conclusion and discussion

5.1. Research conclusion

The online experience of O2O online-offline collaborative experience includes two dimensions: attractiveness and convenience, of which the beta of the attractiveness is 0.335 and the beta of the convenience is 0.543. In the O2O online experience, the effect of the convenience on consumer satisfaction is more prominent. Nowadays people's life tends to be fast-paced, and the online convenience can make it easier for consumers to place orders. It saves time for the consumer, and thus the convenience will be a key factor whether the consumer is satisfied with the online consumer experience. The O2O offline experience consists of three dimensions: human contact experience, shopping environment experience and complaint handling experience. The online ordering service ultimately needs to be implemented by offline physical stores. Among them, the beta value of the offline human contact experience is 0.421, the beta of the shopping environment experience is 0.532, and the beta of the complaint handling experience is 0.601. In the O2O offline experience, the difference with previous research is that the offline complaint handling experience has the most significant effect on the consumer satisfaction, indicating that in case of the offline consume experience, in addition to offline personnel contact and shopping environment, consumers pay more attention to that whether their own complaints can be quickly and effectively solved when the failure of services, but also to provide the O2O platform enterprises with new ideas to improve the consumer shopping experience and consumer satisfaction to promote the consumer repurchase intention through promptly remedial measures of service.

5.2. Suggestions for management

1. Organic combination of online experience and offline experience

The O2O platform shall pay attention to the collaboration between the online experience and offline experience while promoting the difference between online experience and offline experience. In the offline, in addition to paying attention to the shopping environment and staff services, the enterprises also can divert the offline new and old consumers to the online platform through scanning code to pay attention and other promotions. When consumers do not have enough time, they can browse and place orders and use takeaway or express delivery through the convenient O2O platform. In the online, the e-coupons can be redeemed and rewarded with an additional discount to friends. With the help of the O2O platform, the latest product information can be released in a timely manner and the services of searching for the nearest stores based on the current location can be provided to the consumers, which make consumers experience the attractiveness and convenience of online services, and divert consumers online to offline physical stores. This will allow

O2O enterprises to combine online and offline together and complement each other.

2. Optimize consumer satisfaction with O2O online and offline multi-channel experiences

With the advent of the economy of experience, the consumer satisfaction is the result of an evaluation of experience against the level of products and services provided by the enterprises the consumer has consumed. The results show that O2O online-offline multi-channel collaborative experience significantly effects the consumer satisfaction. As a result, O2O multichannel operators should continue to optimize web platform design and facilitate consumers browsing products and placing orders, while designing marketing messages that stimulate consumers' interests and encourage promotions from time to time to give consumers discounts and enhance online attractiveness. For consumers who browse products and place orders on O2O platform, and pick up or receive services, enterprises should provide personnel services of the same quality as those of offline orders consumers in order to enhance consumers' satisfaction to the online and offline products and services collaboration; at the same time, if there is a service failure in the process of offline receiving products or services, O2O multichannel operators should refund, apology, replacement or compensation or other timely manners by linkage offline and online to eliminate consumers' dissatisfaction, enhance the trust of the enterprise. O2O enterprises need to design a series of scenarios to summarize the possible problems that consumers may encounter in the O2O multi-channel consumption environment, identify the solutions to different problems and time constraints, and explore and innovate the consumer experiences in order to achieve deep consumption satisfaction.

3. multi-channel enterprises should focus on increasing consumer repurchase intention

The online and offline multi-channel retail model of "physical store + online store" has become the development trend of the retail industry in the future. In the O2O model, in the course of enhancing sales performance through multi-channel integration, enterprises should not only stimulate consumers to make their first consumption, but also keep and attract consumers to repurchase. Customers enjoy the convenience and quality of service through O2O multi-channel operation, such as search online, offline purchase and pick up, or offline experience and then online purchase, enterprises should take the online and offline multi-channel consumer experience as a whole to enhance consumer satisfaction in O2O online-to-offline consumer experience; the higher the satisfaction in online-to-offline multi-channel consume experience, the more able to give consumers physical and mental pleasure, and then again transfer to the purchase intention to increase their re-patronage rate and promote the sustainability of multi-channel business in O2O mode.

5.3. Research limitations and outlook

Due to the limitation of time, manpower and other factors, the background of the investigation in this paper is only the O2O catering platform. At present, the O2O mode is applied in various industries, including tourism, apparel and accessories, home decoration and home appliances industries. Future research should be

expanded to the O2O mode industry to test the validity of each dimension of multi-channel collaborative experience online and offline in this research model. Although this paper studies the influence mechanism of online-offline multi-channel collaborative experience, consumer satisfaction and consumer repurchase intention, whether the relationship among them is regulated by other relationship variables, such as perceived value, value creation, perceived risk and other factors are not involved in this study. In the future, the relevant regulated variables are considered to be added into the model.

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