Mobile Shopping and Impulse Buying: Chain Mediation of Flow Experience and Purchase Intention

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Keywords: Mobile Shopping; Flow Experience; Purchase Intention; Impulse Purchase; Impulsive Trait.

Abstract. Because of the current situation of mobile Internet shopping beyond PC shopping, this paper studies the impact of mobile shopping on impulse buying. A chain mechanism model of mobile shopping-flow experience-purchase intention - impulse buying is constructed. This paper uses SPSS to do the multiple regression and Mplus to do the multiple medium tests. There is a chain mediated effect between mobile shopping and impulse purchase.

1. Introduction

In recent years, the use rate of mobile devices in China has been increasing, and mobile client shopping is popular. The mobile network economic revenue scale (790.74 billion Yuan) exceeded the PC (679.95 billion Yuan) for the first time in 2016.mobile shopping has become the mainstream of online shopping in China. Donthu and Garcia (1999) [1]have confirmed that online shoppers are more impulsive than traditional channel shoppers. Therefore, it is of great practical significance to study the formation mechanism of consumer impulse purchase in mobile shopping to meet the current environment of online shopping from PC to mobile.

2. Literature Review

Lu Yi (2015) [2]used the S-O-R model and discusses the relationship between the mobile purchase environment and the consumer's purchase intention. Wang Lanqi (2014) [3]used the flow experience as a mediator variable to study the relationship between website characteristics, consumer personality characteristics and impulsive purchase behavior. Shang Xutong (2016) [4] studied the impulsive trait as an antecedent variable of the flow experience. Wu Xiaomei (2014) [5]studied the impulsive trait as a reverse adjustment variable between the flow experience and the impulse purchase. At present, there are many studies on online flow experience and online purchase intention, flow experience and impulsive purchase behavior. But few studies focus on mobile shopping situation.

3. Research Design

3.1 Assumptions and model

Based on the research of Lu Yi (2015) this study divides the mobile shopping into convenience, personalization, fun, socialization, instantiation, situationalization. H1: Mobile shopping promote the generation of consumer experience.

The influence of the flow experience dimension on the purchase intention is unconfirmed. H2: The flow experience (pleasantness, focus, loss of time, sense of control, concentration) has a positive impact on mobile shopping purchase intention.

Based on the research of Wu Xiaomei (2014), we propose H3: The flow experience has a positive impact on the impulse purchase of consumers in the mobile shopping process.

According to the theory of planned behavior, we propose H4: In mobile shopping, impulsive shopping behavior is positively affected by the purchase intention.

Based on the research of Zhang (2006) [7], H5: In mobile shopping, the impulsive trait regulates the relationship between purchase intention and impulsive buying behavior.

As shown in the model, H6a: The interaction between mobile shopping and impulsive buying behavior. H6b: between the flow experience and the impulse purchase behavior, the purchase intention plays a mediating role; H6c: There is a chain intermediary between the mobile shopping and the impulse purchase.
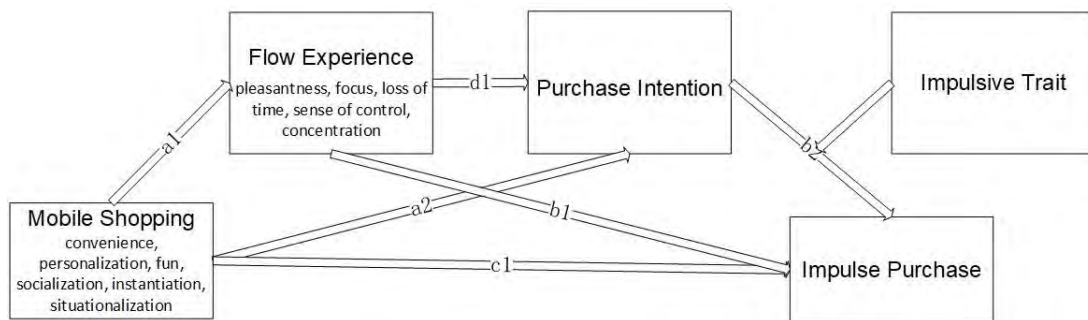

Fig. 1 Theoretical model

3.2 Questionnaire design and analysis of reliability and validity

Refer to the mature scale of predecessor research, this study creates a total of 22 items of the questionnaire including the above 5 variables. The data was measured using the Likert five-point scale method. Respondents are invited to fill out the questionnaire online. 324 questionnaires are collected, the valid questionnaires is 236, efficiently achieved 72.83%.The reliability of total 22 items reached 0.909. The KMO value is 0.875, which is greater than 0.7. The statistical value of the Bartlett spherical test is less than 0.000, indicating that the data collected in this questionnaire is highly correlated. Five initial factors initial interpretation level of the five factors reached 73.917%.

4. Empirical Research

4.1 Regression analysis of flow experience as a dependent variable

M1 examines the relationship of control variables to the flow experience. M2 indicates that the mobile shopping promotes the flow experience. M2_1 to M2_6 reflect the relationship between the six subdivision dimensions and the flow experience. The coefficients are significant. M3_1 to M3_5 examined the effects of control variables and five dimensions of flow experience. M4_1 to M4_5 indicate the impact of mobile shopping on the five dimensions of flow experience. Based on the report in the Table 1, Hypothesis 1 of this study is supported.

4.2 Regression analysis of purchase intention as a dependent variable

In the Table 2.M5 examined the effect of control variables on purchase intention, and M6 was the result of mobile shopping input (β=0.56, p<0.001). M6_1 to M6_6 reflect the impact of six dimensions of mobile shopping on purchase intention. M7 input flow experience variable ($\beta = 0.44$, p < 0.01). The M7_1 to M7_5 reflect the effect of five dimensions of flow experience on the purchase intention. Therefore, the hypothesis 2 of this paper is supported. M6(β =0.56, p<0.01) and M8(β =0.45, p<0.01). According to Baron and Kenny (1986), there is a partial mediation effect between the mobile shopping and the purchase intention. The assumption 6a is established.

4.3 Regression analysis of impulsive buying behavior as a dependent variables

In the Table 3 Impulsive purchase is the ultimate dependent variable. M9 enters the control variable. M10 inputs the impact of mobile shopping(β =0.54, p<0.01). M10_1 to M10_6 report the impact of six dimensions on impulsive purchase. M11 examined the positive and significant relationship between the flow experience and the impulse purchase. M11_1 to M11_5 examined the correlation between the five dimensions of the flow experience and the impulse purchase. Hypothesis 3 is verified.M12 embodies the purchase intention is positive affecting the consumer's impulsive purchase. Hypothesis 4 is established. M11(β=0.37, p<0.01) and M13(β=0.14, p<0.01). We believe purchase intention is partially intermediary and flow experience and impulsive buying behavior. H6b is established.M15 constructs an interaction term between purchase intention and impulsive trait to test the adjustment effect of impulsive traits

between purchase intention and impulsive purchase. The cross-term of the test results is not significant. This paper assumes that H5 is not established and the regulatory effect does not exist.

4.4 Multiple mediation effect test

H6a and H6b have been validated. This paper uses Mplus to analyze the specific effects and total mediation effects of multiple mediation effect，and writes the bootstrap statement. The proposed mediation analysis program, Bootstrap sampling is 5000, setting a 95% confidence interval. If the interval estimate contains 0, it means that the mediation is not significant. Results are shown in Table 4. The 95% confidence interval of the chain mediation path—the mobile shopping—flow experience—purchase intention—impulse purchase (path A1DA1BA) is [0.001, 0.005], excluding 0. H6c is established.

Table 1 Regression analysis of flow experience as a dependent variable

	M1	M2	M2_1	M2_2	M2_3	M2_4	M2_5	M2_6
Gender	-0.03	-0.05	-0.05	-0.06	-0.03	-0.06	-0.03	-0.04
Age	0	0.1	0.07	0.09	0.02	0.11	0.03	0.04
Education	0.17	0.17	0.18	0.17	0.17	0.18	0.15	0.19
Income	0.01	-0.06	-0.05	-0.03	-0.03	-0.05	-0.01	-0.01
Mobile shopping		0.54**						
Convenience			0.49**					
Personalization				0.49**				
Fun					0.46**			
Socialization						0.45**		
Instantiation							0.43**	
Situationalization								0.32*
R2	0.03	0.31	0.23	0.26	0.27	0.22	0.14	0.08
Adjusted R2	0.02	0.3	0.21	0.24	0.25	0.21	0.12	0.06
F	1.9	20.89**	13.86**	15.94**	16.73**	13.16**	13.49**	12.90*

Cont. to Table 1

	M3_1	M4_1	M3_2	M4_2	M3_3	M4_3	M3_4	M4_4	M3_5	M4_5
Gender	-0.01	-0.03	0	-0.02	-0.04	-0.05	-0.04	-0.06	-0.06	-0.08
Age	-0.02	0.07	0.09	0.19	-0.07	0	0.03	0.12	-0.01	0.09
Education	0.17	0.17	0.14	0.14	0.13	0.13	0.19	0.19	0.12	0.12
Income	-0.02	-0.08	-0.01	-0.07	0.01	-0.03	0.03	-0.03	0.02	-0.04
Mobile shopping		0.52**		0.48**		0.47**		0.38**		0.49**
R2	0.03	0.24	0.03	0.29	0.02	0.16	0.04	0.27	0.02	0.27
Adjusted R2	0.01	0.22	0.01	0.27	0.01	0.14	0.02	0.25	0	0.26
F	1.73	14.34**	1.7	18.72**	1.43	17.81**	2.45	16.60**	1.21	17.37**

Table 2 Regression analysis of purchase intention as a dependent variable

	M5	M6	M6_1	M6_2	M6_3	M6_4	M6_5	M6_6
Gender	0	-0.02	-0.03	-0.03	0	-0.03	-0.01	-0.01
Age	0.05	0.15	0.14	0.15	0.07	0.17	0.08	0.07
Education	0.09	0.09	0.1	0.08	0.09	0.1	0.1	0.08
Income	0.20**	0.13	0.13	0.16*	0.16*	0.14	0.19	0.19
Mobile shopping		0.56**						
Convenience			0.54**					
Personalization				0.49**				
Fun					0.48**			
Socialization						0.48**		
Instantiation							0.50**	
Situationalization								0.42*

Cont. to Table 2

R2	0.06	0.36	0.36	0.32	0.34	0.27	0.09	0.1
Adjusted R2	0.04	0.34	0.35	0.31	0.32	0.25	0.07	0.08
F	3.43	25.46**	25.11**	21.95**	19.36**	16.60**	23.77**	12.26**

Cont. to Table 2

	M7	M7_1	M7_2	M7_3	M7_4	M7_5	M8
Gender	0.01	0	0	0.01	0.01	0.02	-0.01
Age	0.05	0.06	0.02	0.08	0.04	0.06	0.13
Education	0.01	0.03	0.04	0.04	0.01	0.04	0.05
Income	0.2	0.21	0.2	0.2	0.19	0.19	0.14
Mobile shopping							0.45*
Flow experience	0.44**						0.20**
Pleasantness		0.37**					
Focus			0.38**				
Loss of time				0.40**			
Sense of control					0.36**		
Concentration						0.39**	
R2	0.25	0.19	0.17	0.2	0.21	0.24	0.38
Adjusted R2	0.23	0.17	0.15	0.18	0.19	0.22	0.37
F	15.10**	10.69**	10.49**	14.25**	10.33**	13.57**	11..87**

5. Conclusions and Shortcomings

The flow experience mediates in mobile shopping and consumer purchase intention. The consumer purchase intention mediates in flow experience and impulsive purchase. Between the mobile shopping and the impulse purchaser, chain mediation sets up. It is not existed that impulsive trait regulates the relationship between purchase intention and impulsive purchase. There are still many shortcomings in this study. Structural equation modeling may simplify the empirical research process.

Table 3 Regression analysis of impulsive buying behavior as a dependent variables

	M9	M10	M10_1	M10_2	M10_3	M10_4	M10_5	M10_6
Gender	0.02	0	0	-0.01	0.02	-0.01	0.01	0.02
Age	0.07	0.16	0.14	0.15	0.08	0.18	0.09	0.09
Education	0.03	0.03	0.04	0.03	0.03	0.04	0.04	0.01
Income	0.05	-0.01	-0.01	0.02	0.01	-0.01	0.04	0.04
Mobile shopping		0.54**						
Convenience			0.47**					
Personalization				0.46**				
Fun					0.51**			
Socialization						0.45**		
Instantiation							0.39**	
Situationalization								0.31**
R2	0.01	0.29	0.22	0.21	0.27	0.2	0.05	0.1
Adjusted R2	-0.01	0.27	0.21	0.2	0.26	0.19	0.02	0.09
F	0.52	18.41**	13.27**	12.42**	17.29**	11.72**	2.18**	5.39**

Cont. to Table 3

	M11	M11_1	M11_2	M11_3	M11_4	M11_5	M12	M13	M14	M15
Gender	0.03	0.02	0.02	0.03	0.03	0.04	0.02	0.02	0.02	0.02
Age	0.07	0.07	0.04	0.09	0.06	0.07	0.04	0.04	0.04	0.04
Education	-0.03	-0.02	-0.01	-0.01	-0.04	-0.01	-0.02	-0.04	-0.04	-0.04
Income	0.05	0.06	0.06	0.05	0.04	0.05	-0.06	-0.05	-0.05	-0.05
Flow experience	0.37**							0.14**	0.14	0.14
Pleasantness		0.36**								
Focus			0.27**							
Loss of time				0.36**						
Sense of control					0.30**					
Concentration						0.34**				
Purchase intention							0.58**	0.51**	0.51**	0.49**
Impulse buying behavior									0.06	0.05
Purchase intention*impulsive trait										0.13
R2	0.14	0.1	0.08	0.12	0.13	0.12	0.32	0.34	0.34	0.34
Adjusted R2	0.12	0.08	0.06	0.1	0.11	0.1	0.31	0.32	0.32	0.31
F	7.51**	6.86**	4.10*	6.80**	5.95**	6.23**	21.79**	19.39**	16.55**	14.48**

Table 4 Multiple mediation effect test

Path	Estimated value	95% Confidence interval	
		Lower limit	Upper limit
A1B1	0.001	0.013	0.028
A2B2	0.000	0.021	0.026
A1D1B2	0.000	0.001	0.005
TOTALIND	0.002	0.027	0.035
TOTAL	0.286	0.460	0.099

6. Acknowledgment

7. References

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