

Research on the Personalized Customization Decision based on the Psychological Perception

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Abstract

Customization economy brings new opportunities for the enterprise to build the core competitiveness. Purchase intention to the customized product determines whether the customization can bring the profits to the enterprise. Previous research shows that consumer's individuality and perception are the important factors influencing consumers' purchase intention. Meanwhile, customization mode also affects the customization process. This paper explore the influence of customers' perceived competence and perceived enjoyment on purchase intention, and whether the customization mode has influence on the process. Collecting experimental data that 120 college students to participate in the exam based on role-scene simulation experiment and using stepwise regression analysis to verify the intermediary regulation effect. Some conclusions are discovered that 1) there are positive association between perceived competence, perceived enjoyment and purchase intention, 2) the mediating effect of perceived enjoyment between consumers' sense of competence and purchase intention is moderated by the customization mode. Therefore, enterprises through the customer segmentation and strengthen the perceived enjoyment of customers can promote consumers' purchase intention, which beneficial to carry out the customized strategy effectively.

Keywords

Perceived Competence; Perceived Enjoyment; Customization Mode; Purchase Intention.

1. Introduction

Service economy has developed into experience economy. Consumers are willing to show the unique and character by the products' appearance and function, and pay more attention to in the process of consumption experience [1]. Personalized customization is a form of experience economy and experience marketing. The phenomenon of customization is more common, such as Audi City with customize service and Dell propose the computer customization. Online customization reduces the difficulty and cost of complementing customization. More theoretical researchers and practitioners had noticed this strategy.

The main research the online customization theory research today is about online customization implementation technology, enterprise operation mechanism and enterprise strategy. However, consumers as the participants of the process are rarely focused on. The meaning is significant that from the perspective of how the consumers feel during the process can contribute to the decision of customization. There are three steps of consumers' perceptive process: cognition, emotion and evaluation, which corresponding to the three psychological process in this paper--perceived competence, perceived enjoyment and purchase intention--to analyze the decision-making behavior during the process of online customization. In addition, studies shows the customize pattern will influence the final outcome through the consumers' perception. This paper based on the process of perception to research how the pattern impact the change of perception. That can be the scientific gist for the retailers implement the online customization marketing strategy.

2. Review and propose the hypothesis

Consumer psychology covers all the research related to consumer psychology, is the important basis of enterprise management strategy and marketing strategy. C. Peter believes that most consumers' psychological awareness activities are to follow the development of the evaluation, cognition, emotion, attitude [2]. This paper chose the perceived competence, perceived enjoyment and purchase intention as study psychological perception process variables.

2.1 Perceived competence

Cognitive evaluation theory suggests that some social factors will support or hinder the individual inherent psychological needs, so as to reinforce or reduce the individual motivation. M. Ryan and I. Deci pointed out that the social factors, such as perceived competence, will promote individual intrinsic motivation, so as to influence the result of the activities [3]. Cognitive evaluation theory shows perceived competence is needed as interaction with the surrounding environment [4]. Also, the factors reflect consumers' perceived competence, such as such as information feedback, material rewards, can significantly increase the intrinsic motivation of consumer [3].

In consumer cognitive activities, as a result of the existence of individual differences, individuals have different cognitive style and cognitive ability which can influence their decision-making process. Perceived competence as an important driving factor of consumer participation motivation have positive correlation with the perception psychology experience. This study choose perceived competence as the research variables of consumers' cognitive stage.

2.2 Perceived enjoyment

The consumer emotion is a kind of psychological feeling about whether the product or service can satisfy his psychological needs, also a reaction of the relationship between product or service and their own feeling. Whether the customer perceived enjoyment is an important factor to measure whether a product is success in the experience economy [5]. Pleasure is ancritical factor to influence the customer service quality expectations, in turn, can give rise to the purchase decision [6]. Accordingly, consumer emotion has important effects on consumer psychology and behavior, this study selected perceived enjoyment as consumers' emotional research variables.

E. Klinger points out that perceived enjoyment is the enjoyment that provided by the product or the pleasure inspired by the product [7]. Compared with the traditional sales mode, consumers perceive more fun in the process of product customization. Accordingly, perceived enjoyment makes them actively participation in customization process [8]. Perceived enjoyment is an important factor to measure the success of experience economy [9]. M. Curran also point out that consumers perceived enjoyment in the form of self-service technology will directly influence its behavior [10]. Others found consumers' perceived enjoyment have positive effect on purchase intention under the situation of customization [11].

2.3 Purchase intention

After the purchase process, consumers will make subjective evaluation on the product or service according to the individual cognition [12]. Evaluation directly impact on consumer attitudes in the process of psychological activity. Therefore, this study selected consumers' purchase intention as the variables to the study the evaluation.

Purchase intention is the probability of the individuals buy the products, which refers to the individual consumer psychological activity. It is generated by the external stimulation and the product or service, and it is an important indicators to predict consumer buying behavior [13]. Actually, intention is the necessary process before doing something and can decide the behavior [14]. In the field of marketing, purchase intention refers to the subjective probability of consumers to purchase products or services [15]. Consumer's purchase intention influenced by external factors. There is important relationship between purchase intention and purchase behavior [16]. It is necessary to conduct a further research to purchase intention for reasonable prediction and analysis of consumer behavior.

In fact, perceived competence has a positive influence on psychological perception. Consumers with high degree of perceived competence have better psychological experience than low perceived competence. At the same time, competence is a potential factor of producing a sense of accomplishment and pleasure. In addition, perceived enjoyment will affect purchase decision and purchase behavior. Similarly, the existing research shows that consumers' purchase intention and purchase behavior will be affected by external factors. Consumers' favorable impression for products and services will increase the purchase quantity and purchase probability. Therefore, this article puts forward the following hypothesis:

H1: under the situation of customization, perceived competence has a positive influence on perceived enjoyment.

H2: under the situation of customization, perceived enjoyment has a positive influence on purchase intention.

H3: under the situation of customization, perceived enjoyment has a mediating effect on the relationship between perceived competence and purchase intention.

2.4 Selection mode

The customize pattern can be divided into two types, addition and subtraction, as the Park does. Addition mode is add the options consumers want to the basic combination. Subtraction mode is deleted unwanted parts from a complete combination. Compared with addition mode, consumers will choose more options under the situation of subtraction mode. This phenomenon is called options framing effects [17].

Option framing effect is the result of consumers perceive differences in different customization mode. Firstly, under the two option frameworks, consumers have different perceived value. According to the Endowment Effect, consumers perceived more value in subtraction mode than to give up this option rather than in addition mode to select this option [18]. In subtraction mode, consumers will in hard situation, which tend to retain more options. Secondly, under the two option frameworks, consumers have different perceived conflicts. Differential Loss Aversion theory shows that consumers are more sensitive to lose utilities when deleting options than gain utilities when add options [19]. At the same time, people are more sensitive to loss functions than money [20]. In subtraction mode, consumers feel more strongly loss aversion propensity which cause reserve more options finally. Thirdly, under the two option frameworks, consumers have different perceived difficult. Compared with addition mode, consumers have a strong psychological conflict, more emotional burden and negative emotions. That directly causes bigger perceived difficulty to make a decision makes consumers choose decision aversion^[21] and finally keep more options.

Therefore, in subtraction mode, consumers will perceived more negative emotions, greater psychological conflict and difficult decision-making. This psychological process will reduce the perceived enjoyment. This paper puts forward the following hypothesis:

H4: under the online customization, the customize pattern can regulate the regulating effect of perceived enjoyment to the relationship between perceived competence and purchase intention: compared with subtraction mode, the mediating effect is more significant in addition mode.

3. Experiment research

3.1 Sample and data collection

In order to simulate real situation, researchers designed role-situational simulation experiment based on the telephone business platform. Participates can really generate the actual feelings. Ensuring the internal validity, laboratory experiment was conducted. Choosing 120 students majored in the management take part in this study.

Through preliminary investigation to select 20 businesses to customize. Every options are valued 3 dollars and only can be used by purchased. Participates are randomly assigned into two customize

pattern groups. In the addition group, people should add the business to the basic package. In the subtraction group, the operation is reverse, delete unwanted options on a complete package containing all. Before participants began to choose, the attribute of the options were investigated, including the importance. Finally, the web server database records the choice of results and related data to show the psychological variables.

3.2 Measurement

The measure of perceived competence refers to the research of W. Dahl, basing on the designed situation to adjust (four measurements) [22]. The measure of purchase intention is consulted from the study of Lou [11] and A. Zeithaml [23] and combine with the customize situation to adjust (three measurements). The measure of perceived enjoyment is from M. Curran [10] and Lou [11] and adjust according to the experiment situation (3 measurement). Totally 10 items to conduct the measure.

According to the serious degree of participants, the scale was tested from several ways, including whether it was filled regularly, whether the evaluation of importance and preference is consistent with the final result. Having deleted 5 invalid samples, the subtraction mode has 57 samples and the addition mode has 58 samples.

4. Findings and Analysis

Descriptive Statistical Analysis. Descriptive statistics and correlation coefficient are shown in table 4.1. Results show that perceived competence and perceived enjoyment, purchase intention are significantly correlated ($p < 0.01$). The correlation coefficient were 0.336 and 0.299. Perceived enjoyment and purchase intention are significantly correlated ($p < 0.01$), the correlation coefficient is 0.720.

Table 4.1 Descriptive statistics and correlation coefficient

	Mean	SD	Perceived Competence	Perceived Enjoyment	Purchase Intention	Selection Mode
Perceived Competence	4.126	1.381	1			
Perceived Enjoyment	5.797	1.038	.366**	1		
Purchase Intention	6.038	1.049	.299**	.720**	1	
Selection Mode	0.5	0.502	-0.007	0.024	0.008	1

Exegesis: N=115, **. Significant correlation at the level of .01

Validity Test. Using variable factor loading and average variation extraction quantity (AVE) to measure the convergent validity. If variable factor loading > 0.5 , and average variation extraction quantity (AVE) > 0.5 , shows convergent validity is acceptable. Convergent validity test results show that the two ingredients were extracted to two parts and the proportion of cumulative explain is 76.416%. The overall scale KMO value is 0.835 and Bartlett's test of Sphericity results is significant (Sig. = 0.000). adopting the method of varimax to obtain the classification and scale factor loading of the 10 items, calculating the AVE. The results show as the table 4.2. .

Reliability Test. The criteria of the reliability test is both all factor overall Cronbach alpha and Cronbach alpha value of each factor are more than 0.6. Using SPSS17.0 to conduct the reliability test of the 10 items figured that the factor overall Cronbach alpha value is 0.894. Then figuring out each factor's Cronbach alpha and the Cronbach alpha when deleting the factor. The results as shown in table 4.2.

Table 4.2 classified results and factor loading

scale	Factor loading	AVE	Cronbach α 值	
			After delete	whole
Q1: In the customize process, I think I am very gifted.	0.906	0.748	0.910	0.943
Q2: In the customize process, I think I'm capable of it.	0.870		0.922	
Q3: In the customize process, I think I'm smart.	0.814		0.946	
Q4: In the customize process, I think I have a high IQ.	0.866		0.921	
Q5: It is interesting to me to design own business.	0.666	0.467	0.866	0.874
Q6: I can enjoy a lot during the online customization.	0.762		0.782	
Q7: I think such experience is an interesting attempt.	0.613		0.807	
Q8: I would like to buy by this way.	0.666		0.874	0.888
Q9: I would like to recommend to others this way of customization and the website.	0.754	0.539	0.812	
Q10: I will also try to customize on the website and buy business meal.	0.726		0.832	

Results shows that all factor loading were greater than 0.5, the AVE of the perceived enjoyment greater than 0.4, close to 0.5 and the rest of the various factors' AVE values were greater than 0.5. By the criteria of the convergent validity, the scale is good enough to measure the problems. According to that the Cronbach alpha values of every factors are greater than 0.6, and the Cronbach alpha values cannot be improve by deleting one of the factors, the scale have good reliability.

5. Hypothesis testing.

This paper adopts the regression analysis to test H1. In the process of regression, the perceived competence is the independent variable, the perceived enjoyment is the dependent variable. The results show that the variable pass the F-test, perceived competence has significant positive influence on perceived enjoyment ($\beta=0.275, p<0.01$). Therefore, under the situation of customization, perceived competence has a positive influence on perceived enjoyment. Then using same method to test H2. The perceived enjoyment is the independent variable, the purchase intention is the dependent variable. Also, the perceived enjoyment has significant positive influence on purchase intention ($\beta=0.727, p<0.01$). So under the situation of customization, perceived enjoyment has a positive influence on purchase intention.

Next according to the stepwise regression, H3 was pass the test, results as shown in table 4.3. In model 1, the independent variable is the perceived competence, the dependent variable is the purchase intention. In model 2, the independent variable is the perceived competence, the dependent variable is the perceived enjoyment. In model 3, the independent variable is the perceived competence and perceived enjoyment, the dependent variable is the purchase intention. Finally, the study figured out that perceived enjoyment totally mediates the relationship of the perceived competence and purchase intention. Therefore, under the situation of customization, perceived enjoyment has a mediating effect on the relationship between perceived competence and purchase intention.

Table 4.3 The mediating effect of perceived enjoyment on the relationship between perceived competence and purchase intention

Independent Variable	Model one Purchase intention			Model two Perceived enjoyment			Model three Purchase intention		
	Beta	t	p	Beta	t	p	Beta	t	p
Perceived competence	0.227	3.337	0.001	0.275	4.182	0.000	0.032	0.591	0.555
Perceived enjoyment	-	-	-	-	-	-	0.712	10.006	0.000
R2	0.090			0.134			0.519		
Adjustment R2	0.082			0.126			0.511		
F-test	11.134			17.486			60.514		

To test H4, setting the customize pattern as the adjust variable and class variables to conduct the group regression analysis. Separately conduct the mediating effect of the perceived enjoyment both in addition mode and subtraction mode, and the regulating effect by the grouping mode. In addition mode, the test results as shown in table 4.4, perceived enjoyment has a total mediating effect on the relationship between the consumers' perceived competence and purchase intention. In subtraction mode, the test results as shown in table 4.5, the mediating effect is not significant. Thus, the mediating effect of the perceived enjoyment on the relationship between the consumers' perceived competence and purchase intention is regulated by the selection mode. Therefore, H4 pass the test.

Table 4.4 The regulating effect of perceived enjoyment to the relationship between perceived competence and purchase intention (addition)

Independent Variable	Model one Purchase intention			Model two Perceived enjoyment			Model three Purchase intention		
	Beta	t	p	Beta	t	p	Beta	T	p
Perceived competence	0.321	3.635	0.001	0.393	4.625	0.000	0.076	0.903	0.370
Perceived enjoyment	-	-	-	-	-	-	0.623	5.572	0.000
R2	0.191			0.276			0.483		
Adjustment R2	0.176			0.264			0.464		
F-test	13.214			21.394			25.677		

Table 4.5 The regulating effect of perceived enjoyment to the relationship between perceived competence and purchase intention (subtraction)

Independent Variable	Model one Purchase intention			Model two Perceived enjoyment			Model three Purchase intention		
	Beta	t	p	Beta	t	p	Beta	T	p
Perceived competence	0.151	1.463	0.149	0.178	1.803	0.077	0.015	0.202	0.840
Perceived enjoyment	-	-	-	-	-	-	0.764	7.892	0.000
R2	0.037			0.056			0.553		
Adjustment R2	0.020			0.039			0.536		
F-test	2.140			3.251			33.407		

6. Conclusion

This research adopts the role-situational simulation experiment, from the perspective of consumer perception to explore the decision-making behavior of consumers' online customization. 120 college students participate the mobile communications business online customization experiment, finally obtain 115 valid samples to analysis. The study find the relationship between perceived competence,

perceived enjoyment and purchase intention. Under the online customize situation, perceived competence has a positive influence on perceived enjoyment (H1); perceived enjoyment has a positive influence on purchase intention (H2); perceived enjoyment has a mediating effect on the relationship between perceived competence and purchase intention (H3). Introducing the factor that Park had found the selection mode would have influence on the results. This study figured that the customize pattern can regulate the mediating effect of perceived enjoyment to the relationship between perceived competence and purchase intention: compared with subtraction mode, the mediating effect is more significant in addition mode.

7. Research value

This study based on a self-developed platform to conduct a role-situational simulation experiment to simulate the actual customization. Participants can feel exactly the customization process, which is more vraiseemblance than a simple context simulation. In addition, this article is based on the psychological perception process of "evaluation, cognition, emotion," to analyze consumers' purchasing behavior and the whole process of customization. The study introducing the selection mode is enrich theory research and the application scope of the option framing effect. Also, this study enrich the research content and perspective of consumer perception.

According to the results, people with high perceived competence have more enjoy in the process of customization which can enhance the purchase intention positively. That means retailers should divide the different group of consumers to make the appropriate marketing strategy in order to maximize the effect. Then, perceived enjoyment can mediate the perceived competence and purchase intention. Therefore, retailers can guide consumers appropriately to enhance perceived enjoyment so that people with high perceived competence will have more strongly purchase intention. Finally, retailers can segment market by the regulating effect of selection mode to improve the efficiency of carrying out the customize stragety.

8. Research limitations

To rule out the influence of price, option attribute etc. on the experimental results, the study doesn't take the different category of products and the marketing mix, such as price, into consideration when choosing the experimental business. In addition, he related studies show that the order of the options, evaluation and selection, may influence consumers' choice [24], the study shows the business on the website randomly rather than control the ranking. For the research content, in order to stress the central role of the perceived enjoyment, other factors like cognitive, personality were ignored. In the future research, studies can enrich the context of consumers' perception. Finally, this is a laboratory experiment with high internal validity, but the external validity and ecological validity are relatively low [25-26]. Therefore, further research should be combined with field experiment, choosing more people participate at the same time in the nature situation to improve the external validity and ecological validity.

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