

Study on the Factors Influencing Consumer Behavior by Credit Cards

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Abstract

As an emerging product in recent years, many scholars have begun to study the relationship between credit cards and consumer behavior, but there is little research on the influencing factors between credit cards and consumer behavior. Therefore, this paper starts from the basic characteristics of credit cards, studying the impact of payment forms of credit cards on consumer behavior firstly and then studying the impact of credit card consumption characteristics on consumption behavior.

Keywords

Credit Card; Consumer Behavior; Mental Accounting.

1. Research Background and Significance

1.1. Research Background

With the increasing acceptance of credit cards, how they affect consumer behavior has also attracted many people to study. This article argues that the online payment methods and overdraft capabilities of credit cards will have an impact on consumer behavior.

At present, academic works mainly demonstrate the impact of credit cards on consumer behavior from both positive and negative perspectives, but few scholars have studied the impact mechanism of credit cards on consumer behavior from a micro perspective. Studying the impact mechanism of credit cards on consumer behavior is conducive to finding a way to promote the healthy development of credit cards.

1.2. Research Purpose and Significance

This paper mainly studies the impact mechanism of credit cards on consumer behavior. The first is to study whether the online payment methods of credit cards will have an impact on consumer behavior with the popularity of mobile payments. The second is to study how the overdraft and installment payment functions of credit cards affect consumers' consumption psychology and expectations. The third is to study the acceptance level of credit cards among different groups in order to improve the promotion efficiency of credit cards.

2. Literature Review

2.1. A Review of Consumer Buying Behavior Research

According to Feinberg, who proposed the conditional reflex theory of credit cards, he believed that the emergence of credit cards promoted commodity consumption because their payment methods were simpler [1]. Fu Jia, Zhong Ke, Jiang Hongyan et al., Wang Haizhong, and Yang Chen conducted research and established models from three dimensions, which are product familiarity, price, and attributes. They found that when consumers use cash payments, they become more hesitant when facing choices, thereby increasing the probability of transaction failure. [2,3].

2.2. A Review of Credit Consumption Research

The research on credit consumption originated from Irving Fisher's interest theory, which proposed that time has an impact on consumption, that is, credit consumption can smooth income and time, thereby promoting overall consumption. According to this study, Hirshleifer, Juster and others proposed that credit loans would promote the consumption of durable goods, indirectly indicating that consumers have a potential demand for credit consumption.

2.3. Research Results on the Impact of Credit Cards on Consumer Behavior

The research on the impact of credit cards on consumer behavior has been developed based on consumer purchasing behavior and credit consumption. Wang Dahai, Yao Fei, and Zheng Yuxiang established a credit card consumption attitude model from the perspective of banking business marketing, and concluded that business marketing will promote credit card consumption [4]. Wang Jian and Li Guangzi conducted a study on the impact of credit card limits and consumption [5].

2.4. Research Review

From the above research, it can be seen that payment methods and psychological account effects can have emotional or positive or negative impacts on consumers, thereby affecting the success of transactions.

However, there is currently limited research on this issue in the field of credit card products. This paper systematically analyzes the reasons why the characteristics of credit cards have an impact on consumer behavior, and verifies the data through questionnaire surveys, thus reaching the conclusion that credit cards can promote consumer behavior.

3. Analysis of the Impact of Credit Card Consumption Behavior

3.1. Theory of Mental Accounting

The psychological account theory refers to consumers putting all their income into one account, which is divided into a pleasure account for consumption and a pain account for cost. Credit consumption refers to the fact that the pleasure brought by a pleasure account outweighs the negative impact brought by a pain account, thereby promoting consumption.

3.2. Psychological Account Effects of Credit Card Payment Methods

The psychological account effect of credit card payment is mainly manifested as the greater pleasure utility of the psychological account when consumers use credit cards. Assuming that consumers believe that the value of cash is equal to the value of goods, paying with cash will result in the same utility for both psychological accounts. But if credit cards are used for consumption, as they can overdraw future income, the pleasure utility of psychological accounts will outweigh the pain utility for consumers, thereby reducing the burden of consumption and promoting consumption.

Secondly, different payment methods can bring consumers different sensory experiences, which in turn affect the utility of different psychological accounts during consumption. Cash payment will bring strong sensory impact to consumers, increase their sense of burden, and thus reduce their desire to consume. On the contrary, due to the fact that credit card payments can't come into contact with cash during the consumption process, the sensory experience brought about by "spending money" will be weakened, and the pain caused by spending money will also be weakened, leading to the success of the purchase decision.

In summary, on the one hand, under the influence of dual channel psychological accounts, compared to cash payments, credit card payment methods bring more joy than pain to consumers. On the other hand, under the influence of psychological account effects, consumers

place their wealth from cash payments and credit card payments into different psychological accounts for management, and the sensory experience of wealth use varies under different psychological accounts.

4. Empirical Study

4.1. Credit Card Questionnaire Survey

(1) Questionnaire design

The questionnaire is divided into two levels based on the three dimensions mentioned earlier.

(2) Investigation method

Conduct research primarily on bank customers, involving consumers of different ages, educational backgrounds, and professions. A total of 300 questionnaires were sent out this time, of which 233 were valid, with a validity ratio of 78%.

4.2. Model Building

This article uses a binary logistic regression model, with the independent variable being whether the study population uses credit cards, to study the impact on consumption. In this model, $y = 1$ represents the occurrence of the event, explanatory variable $X_i \equiv (X_{i1} X_{i2} \dots X_{ik})'$, parameter $F \equiv (F_1 F_2 \dots F_k)'$, the linear probability formula can be expressed as:

$$y_i = F_1 X_{i1} + F_2 X_{i2} \dots F_k X_{ik} + \varepsilon' = X'F + \varepsilon' \quad (i=1,2,\dots,n) \tag{1}$$

If the dependent variable uses a credit card, then $y_i = 1$, otherwise $y_i = 0$. The explanatory variable X_i is a consumption influencing factor that includes six aspects: age, education level, income, occupation, payment method, and card usage motivation, they are represented by $X_1 X_2 \dots X_6$ respectively. The variable description is shown in Table 1.

Table 1. Variable Description

Variable	Variable Declaration
Y	Not using 0; Using 1
X ₁	"≤22"=0
	"23-45"=1
	"≥46"=2
X ₂	High school or below =0
	College degree or above =1
X ₃	"≤2000 Yuan"=0
	"2001-8000 Yuan"=1
	">8000 Yuan"=2
X ₄	Ordinary employee =1
	Others=0
X ₅	Cash=0
	Debit card=1
	Credit card=2
	Others=3
X ₆	Overdraft consumption =0
	Amortization loan =1
	Large withdrawal =2
	Point discounts =3
	Others=4

4.3. Empirical Testing

4.3.1. Model Regression Results

Regression simulation analysis was conducted on the questionnaire data, and the regression results showed that the fitting coefficient $R^2 = 0.269$. The details are shown in Table 2.

Table 2. Model regression results

Variable	B	Standard Error	Wald	Degree of freedom	Significance	Exp (B)
X ₁	-1.341	0.469	8.17	1	0.004	0.261
X ₂	0.044	0.561	0.006	1	0.938	1.045
X ₃	1.167	0.454	6.594	1	0.01	3.212
X ₄	0.422	0.404	1.09	1	0.296	1.525
X ₅	0.786	0.23	11.657	1	0.001	2.196
X ₆	-0.445	0.123	13.062	1	0	0.641
Constant	1.03	0.938	1.205	1	0.272	2.8

According to the regression results of the model, except for the educational background factor, the significance levels of each independent variable are relatively significant.

4.3.2. Multicollinearity Test

(1) Multicollinearity test

According to eigenvalues, conditional indicators, etc., the correlation between independent variables is relatively high, and it is necessary to screen out some independent variables and revalidate them. As shown in Table 3.

Table 3. Collinearity Diagnosis

Model	Dimension	Eigenvalue	Condition index	Variance ratio						
				Constant	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆
1	1	5.537	1	0	0	0	0	0.01	0.01	0.01
	2	0.608	3.017	0	0	0	0	0.08	0.02	0.71
	3	0.33	4.099	0	0.09	0.01	0.07	0.44	0	0.16
	4	0.238	4.827	0	0.09	0.02	0	0.27	0.56	0.01
	5	0.148	6.115	0.01	0	0.61	0.06	0.17	0.21	0.07
	6	0.108	7.171	0	0.35	0.01	0.78	0	0.16	0.03
	7	0.032	13.25	0.99	0.47	0.34	0.09	0.03	0.05	0.02

(2) Model Modification

After multiple screenings, it was ultimately decided to exclude age. As shown in Table 4.

Table 4. Collinearity Diagnosis

Model	Dimension	Eigenvalue	Condition index	Variance ratio						
				Constant	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆
1	1	5.537	1	0	0	0	0	0.01	0.01	0.01
	2	0.608	3.017	0	0	0	0	0.08	0.02	0.71
	3	0.33	4.099	0	0.09	0.01	0.07	0.44	0	0.16
	4	0.238	4.827	0	0.09	0.02	0	0.27	0.56	0.01
	5	0.148	6.115	0.01	0	0.61	0.06	0.17	0.21	0.07
	6	0.108	7.171	0	0.35	0.01	0.78	0	0.16	0.03
	7	0.032	13.25	0.99	0.47	0.34	0.09	0.03	0.05	0.02

(3) Optimized model

Table 5. Optimized model

Model	Unstandardized coefficient		Standardized coefficient Beta	t	Significance	Collinearity statistics	
	B	StandardError				Tolerance	VIF
Constant	0.433	0.092		4.687	0		
X2	0.081	0.069	0.072	1.171	0.243	0.883	1.133
X3	0.12	0.053	0.135	2.278	0.024	0.953	1.05
X4	0.091	0.052	0.107	1.751	0.081	0.897	1.115
X5	0.122	0.027	0.273	4.454	0	0.895	1.118
X6	-0.068	0.16	-0.26	-4.399	0	0.963	1.039

As shown in Table 5, the final regression equation is:

$$Y=0.433+0.081X_2+0.12X_3+0.091X_4+0.122X_5-0.068X_6 \quad (2)$$

(4) Analysis of multicollinearity results

After excluding age factors, the multicollinearity test results meet the requirements, indicating a significant similarity between age factors and other factors.

4.3.3. Empirical Analysis

From the regression results of the model, it can be seen that the age, income, payment method, and overdraft consumption of consumers all have good significance. Although the significance of consumers' education and occupation is not significant, there are still prominent features in the survey process. The following will analyze each one individually.

(1) Characteristics of age

Young people are the main force of credit card consumption, with consumers aged 21 to 30 accounting for 50%. The reasons for the analysis are as follows.

Firstly, young people are willing to accept new things, have a high level of acceptance of credit cards, and have a sense of advanced consumption, so their proportion of using credit cards is higher.

Secondly, the wealth accumulation of young consumers is relatively limited, and their financial situation makes them more in need of credit cards for overdraft consumption.

In addition, many young people are interested in the marketing activities of merchants and are willing to gain more benefits from them.

(2) Characteristics of education background

Credit card consumers generally have higher education. Among the 233 respondents, 85% have a college degree or above. The reasons for this are analyzed as follows.

Firstly, consumers with higher education are more willing to accept new things, have a better understanding of credit cards, and are more willing to accept this form of consumption. Secondly, consumers with higher education are more familiar with financial and economic knowledge and have a higher enthusiasm for participating in the financial field. Finally, consumers with higher education are generally optimistic about their expected future income levels.

(3) Characteristics of occupation

Most credit card consumers are ordinary employees, accounting for 63%. Preliminary analysis shows that the reasons for this phenomenon are related to their professional characteristics and credit card consumption habits.

Firstly, the working methods and environment of the employees are relatively fixed, with a relatively high level of financial and economic knowledge. They are familiar with the purposes and functions of credit card consumption, and have a certain level of consumption evaluation ability. Secondly, the employees' income remains relatively stable in the short term.

The above discussion indicates that the advantage of ordinary employees using credit cards for consumption lies in their stable professional income. However, other occupational groups still account for 37%, indicating that the credit card consumer group still has diverse characteristics.

(4) Characteristics of income level

Credit card consumers are mainly middle-income consumers. From the perspective of the consumption ability of middle-income individuals, their income is limited firstly, so it is necessary to utilize the overdraft consumption function of credit cards to supplement their current financial situation. Secondly, their consumption ability can solve the debt repayment problem caused by overdraft consumption.

(5) Characteristics of payment methods selection

From the data on payment method selection, it can be seen that more people choose credit cards instead of using savings cards for payment. From the current frequency of use, in some regions, cardless payment is gradually replacing card payment, but card payment still has significance. On the one hand, there are certain amount restrictions for cardless payments, and on the other hand, for security reasons, card payments are a good choice.

(6) Characteristics of overdraft consumption

From the data on credit card overdrafts, it can be seen that credit card overdrafts are the most important reason for many consumers to choose credit cards for consumption.

5. Research Conclusion

5.1. Conclusion

(1) Credit card payment methods affect consumer psychology

The impact of credit card payment methods on consumer psychology mainly comes from the mental accounting effect of payment methods. Consumers deposit funds from different payment methods into different mental accounting for management. There are two main reasons for this phenomenon. One is the different payment costs of different payment methods, and the other is due to different preferences for payment methods. Compared to cash payment methods, online payment methods reduce the pain of consumption and enhance the pleasure of consumption.

(2) Credit card overdraft consumption affects consumer psychology

The overdraft function of credit cards can have an impact on consumers' consumption psychology, which is reflected in the mental accounting effect. Under the influence of mental accounting, late payment alleviates the pain of consumers' current consumption.

(3) Empirical analysis conclusion on credit card consumption behavior

Based on empirical research, the following three conclusions can be drawn. Firstly, among the consumer groups of credit cards, the main force is the young, highly educated middle-income group. The second is to establish a regression model based on survey data for regression analysis and obtain regression equations. The third aspect is to analyze consumers' age, education level, income, and occupation to verify hypothetical conclusions.

5.2. Enlightenment on Business

(1) Installment payment function

In actual consumption, the interest rate of installment payments is relatively high, which limits the application of installment payments, mainly targeting specific consumer groups with limited funds. Therefore, as this article suggests, how to improve consumers' acceptance of credit card installment payments and make them a consumption model that consumers recognize and are willing to pay installment fees is one of the development directions of credit cards in the future.

(2) Enlightenment on banking business

Comparing the advantages and disadvantages of physical credit cards with virtual credit limits, the disadvantages of physical credit cards are obvious. Firstly, the payment cost is higher than virtual credit, and secondly, the threshold for obtaining credit consumption is higher. But the credit rating of banks is recognized by the social group, which is the advantage of banks in developing credit cards.

5.3. Shortage of the Study

Firstly, the sample data is relatively limited, and there may be significant randomness in the results. Secondly, there are strong personal subjective factors in the presentation of variables and the analysis of problems. Besides, the setting of the problem is also relatively simple, which may be guiding and may result in errors. The next study will further refine it.

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