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Summer 5-27-2016

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Recommended Citation

Zhao, Qing; Li, Yiwei; and Xue, Jun, "Research on Influence Factors of the Internet Financial Product Consumption Based on Innovation Diffusion Theory" (2016). *WHICEB 2016 Proceedings*. 35.

<http://aisel.aisnet.org/whiceb2016/35>

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Research on Influence Factors of the Internet Financial Product

Consumption Based on Innovation Diffusion Theory

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Abstract: This article takes the personal characteristic as a point of penetration, through a literature review, put forwards three antecedents factors, that are personal innovation, product cognition and perceived risk, focusing on the relationship among the three factors, the conceptual model was tested by structural equation model. The findings are that all of the above three aspects influence the choice of the Internet financial products. They also mutual influence between the three, personal innovation has a positive impact on product cognition and gives a negative impact on perceived risk, at the same time, product cognition affects the perceived risk negatively.

Keyword: internet finance; influence factors; personal innovation; perceived risk ;product cognition

1. INTRODUCTION

There is great impact of modern information technology on the internet and financial, the two things have fused together and transform into new commercial activity. The internet financial product was coming into view start with the popularity of Alibaba's Yuebao in 2013. Later, there are a variety of internet financial products occurred. However, sale situation of internet financial products present the Matthew effect to a certain extent: internet financial products of well-known enterprise platforms dominant market share, at the same time. Instead, the new platform, such as "Jie Dai Bao" need to pay a larger marketing costs so that they can take a place in the market. Emerging markets showing such a development of the situation is the result of consumer marketable choice behavior. Therefore, it is necessary to clarify factors that affecting consumer choice of internet financial products.

XIE Ping, ZOU Chuanwei^[1] (2012) pointed out that the internet finance is a new financing model that different from the direct financing model of capital market and indirect financing of traditional commercial bank, the technological advancements of search engines, mobile payments and cloud computing have allowed internet financial to develop. MA Yun(2013)^[2] has thought that the internet finance is commercial activity of internet business practices in the financial sector. Wu Xiaoqiu^[3](2015) has thought that the internet financial can be referred to the third financial format, refers to having a basic function of finance, to use the internet as a platform, with a spirit of the Internet, in order to integrate cloud data.

Existing researches about internet financial concentrated in the financial regulation and consumer behavior, the study of the latter mostly related to Technology Acceptance Model (TAM). This emphasis on the impact of perceived usefulness and perceived ease of use^[4] and other factors on consumer acceptance of new technologies. The impact of these two factors has been confirmed by a large number of authoritative literature. In addition, a variety of factors that affect the Internet consumer financial products are presented and can be verified, of which there are some research when adopting behaviors common factors, such as perceived promoting conditions, compatibility and subjective norm^[5]; some Institute for e-commerce-specific factors, such as perceived benefits, perceived risk, financial risk, convenience and trust, etc.^[6].

2 Related Literature Review

The internet financial product was coming into view start with the popularity of Alibaba's Yuebao, after this, many scholars have done a lot of research about internet financial which focus on internet financial

regulation and consumer behavior. Many of the researches about consumer behavior have adopted technology acceptance model and its related model in order to study consumers' attitudes and intentions. A variety of factors that affect the internet financial product consumption have been proposed and verified. Among these factors, some of them are common factors when researchers study adopting behaviors, such as perceived usefulness, perceived ease of use, perceived promote conditions, compatibility and subjective norms; some of them direct at e-commerce-specific factors study, such as perceived benefits, perceived risk, financial risk, convenience and trust and soon.

Internet financial products are innovative product, this study argues that personal innovation will affect consumers' buying behaviors of the internet financial product. "Personal innovation" which has firstly appeared in innovation diffusion theory (IDT). This theory also known as diffusion of innovation (DOI) that have been proposed by Everett M. Rogers (1983)^[7]. DOI theory defines innovation as a new idea, product or process which spread among the various person of social system as time goes on in specific channels. In this theory, the individual is considered to have varying degrees of willingness to accept innovation. Innovation is considered to be their own individual characteristics, individuals with innovative are faster than the rest of the people to accept innovation. The relation between adopt number of people and the time present as the normal distribution, that is to say, the number of early adoption is small, then gradually increased until to the maximum, finally slowly decreases. Innovative social system can be divided into innovators, early adopters, early majority, late majority and laggards this five groups by the normal distribution curve, 2.5%, 13.5%, 34%, 34% and 16% of total number, respectively. This shows that the existence of some consumers will indeed try internet financial products first, the most important feature of this part of consumer is having personal innovation. CHEN WenPei, LIU Wei et al. (2010)^[8] have considered that consumers' innovation can predict consumers' adoption behavior than other characteristics. Goldsmith & Hofaker (1991)^[9] have designed consumer innovation scale in order to test consumer spending propensity of a particular product, and the research have found a positive correlation between consumer willingness to adopt innovation products and personal innovation. Agarwal (1998)^[10] have introduced personal innovation as individuals representative to technology acceptance model, and have found that personal innovation have an impact on consumers' behavior through influencing attitudes or intentions. Citrin & Silverman (1998)^[11] have introduced personal innovation to the study of e-commerce, and believe in that the personal innovation is an intermediate variable between network usage and online shopping. Liu Meilian, Li Zhicheng (2006)^[12] have expressed this personal innovative characteristics as PI (Personal Innovation) which significantly affect attitude and behavior of consumers in the e-commerce environment, and this research argues that this presentation can accurately express the inner meaning of this variable. Personal innovation is the individual innate characteristics without affecting by the selected object.

Usually, the internet financial product is a kind of financing product, people are concerned about the risk it brings. Therefore, perceived risk has been become a focus of this study. Raymond Bauer (1960) has extended the concept of perceived risk from psychology, he has believed that the result of consumption present unpredictability, consumers' feeling of concerns and unpleasant about unpredictability is perceived risk. Jacoby & Kaplan (1972)^[13] have considered the risks including social risk, functional risk, physical risk, psychological risk, financial risks. Peter Tarpey (1975) has added time risk to the risk theory. Kotler (1999)^[14] has pointed out that consumers change, postpone or cancel the purchase decision are largely influenced by perceived risk. Clow (1998)^[15] has assumed that consumer behavior is goal-oriented. There are many uncertain risk factors during the process of consumption, which may lead to the consumptive consequences are full of perceived risk. Bettman (1973)^[16] has thought that the perceived risk is composed by two factors, one is unsure of the merits and demerit of the goods, the other is uncertain consequences of the failure purchase. Jing Miao, Zhou Ying and Peng Juan (2005)^[17] have suggested that the perceived risk of different products show different manifestations,

perceived risk research should be combined with specific products. Li Baoling, Li Qi (2007) ^[18] have thought that consumers have different perceived risk in a network and traditional brick-and-mortar shopping environment. Kang Ziyi, Chen Tao (2012) ^[19] have considered that perceived risk can produce certain positive role to innovation resistance.

Cognition is a psychological concept and the initial stage of all mental processes, the cognitive is the process that people deal with perception, can be people deal with perception, memory and information. It can be divided into two stages of physical and psychological. Individuals form initial impressions through the senses, making a comprehensive with the existing experience to realize image, this is the physiological stage of cognition. Individuals process image that has formed in the physiological stage through mental activity to form a cognitive outcome, this is the stage of cognitive psychology. Boyd & Yin (1999) ^[20] have believed that any perception, imagination, reasoning, recognition, judgment and other complex mental activities belong to the "cognition." Fisher & Bell (1984) ^[21] have put forward in the book "Environmental Psychology," , cognitive process can not only emphasize the feeling of existence, there must be a process of emotional value judgments. Prover'te paket Lo Jizi (1956) ^[22] have argued that cognitive processes do exist general rule, but more importantly, its process will be guided by the cognitive psychology of the subject itself, cognitive outcomes present strong subjective color. Kelly G & McClennn P (1999) ^[23] have showed that there exists positive relation between personal behaviors and cognitive outcomes, that is to say, the more positive individual emotional expression of the cognitive outcomes, the higher participating enthusiasm they have.

Existing research have proposed a lot of factors that affect the internet financial product consumption, mainly based on TAM to find antecedents. The study has the same viewpoint that attitude has a influence on consumer purchase behavior. However, this research start with individual characteristics and focus on the relationship between factors that affecting the internet financial product consumption, do not based on the TAM.

3 hypotheses put forward

The internet financial products are innovative product to consumers, their consumption is a interactive process of the individual and the information systems. Personal innovation is an important factor of the issue that whether consumers can accept the new technology products, and closely related to the degree of use of the Internet financial products. In the interconnecting Internet environment, consumers can take the initiative to be acquainted with products, so as to avoid the lack of trust which due to information asymmetry. The extent of acquaintance of the products is an important factor affecting consumer buying behavior. Core pain points of the financial industry is risk control, this is the biggest point that the consumer of internet financial products most care about as well. Therefore, personal innovation and product awareness, this two factors are derived from the individual characteristics, combined with perceived risk, this study build research model based on these three factors.

Personal innovation refers to an individual's intensity of desire to try new things , it is the individual inner characteristic. By introducing the innovation diffusion theory, many of the literature shows that personal innovation can affect the adoption behavior of consumers of information system. As the innovative thing, internet financial is in the early development stage at present. It is a reasonable choice to consider the personal innovation to be one of the factors of internet financial products consumption. Based on this, we propose the following hypothesis:

H1: Personal innovation has positive impact on consumer attitudes toward purchasing behavior of internet financial products.

Mitchell (1999) have found that perceived risk is more powerful than the perceived benefits in the analysis of attitude of the consumer. Consumers prefer to reduce the risk at first, and then maximize its benefits.

When using virtual internet, people show a strong risk management awareness, and all more so when internet financial products involves personal privacy and financial information. The internet financial product is an efficient and useful way of managing money, nevertheless, the risk brings indeed concern for users. Clearly, the risks of Internet financial products affect consumer behavior and attitude, suppress purchase intentions. At the same time, individuals who have a high innovation relatively strong curiosity can weaken the sense of risk, it is willing to take a chance to try new things. Therefore, we propose the following hypothesis:

H2: Perceived risk has negative impact on consumer attitudes toward purchasing behavior of internet financial products.

H3: Perceived risk has negative impact on consumer intent toward purchasing behavior of internet financial products.

H4: Personal innovation has negative impact on perceived risk of internet financial products

Individual cognitive process of things is a comprehensive process of dealing with information and knowledge through physical and mental activity, this process is not only influenced by objective things, but also stimulated by the environment and the individual state comprehensively. Due to passion for innovation, the individual who have a higher innovation spirit would become active seekers of product information to improve their own awareness of the product, and then help them make decisions. Therefore, the study put forward the hypothesis

H5: Personal innovation has positive impact on product cognition of the internet financial products.

The ability of grasping information is the synthesis of consumer cognitive outcomes which with a certain emotional tendencies. As the perceived risk of consumer will would change along with product cognition, emotional tendencies would affect the strength of the perceived risk. Perceived information quality was important in mitigating perceived risk^[24]. As for internet financial products, the more cognition about products, the less risk consumer perceived. Additional knowledge that needed when consumer use internet would hinder some user use the internet, individual cognition is the starting point of the purchasing behavior. Thus, consumer cognitive state of Internet financial products will affect purchasing intentions. Attitude is that people long to keep right and wrong ideas about certain things, once it formed, the consumers tend to make purchasing decisions based on attitude. Therefore, we propose the following hypothesis:

H6: Product cognition has negative impact on perceived risks of the internet financial Products.

H7: Product cognition has positive impact on purchasing intention of the internet financial Products.

H8: Attitude towards action has positive impact on purchasing intention of the internet financial Products.

4 Empirical Analysis

The study have got data through "Questionnaire Star" survey platform, the questionnaire is divided into two parts, that is Internet financial product selection factors surveys and personal information. In the first part, there are five latent variables survey questionnaire, with five Likert scale. Observation variable is a reference to the basis of a lot of literature, combined with the internet financial status of development and discussing with experts and teachers. Shown as Table 1.

Table 1. The title Source of questionnaire

Latent Variables	Title Source
Personal Innovation	Goldsmith & Hofacker (1991)
Perceived Risk	Anne-Sophie Casesi ^[25] (2002) ; Sandra M. Forsythe & Bo Shi ^[26] (2003)
Product Cognition	David A. Aaker (1991)
Attitude towards Action	Sweeney C.J & Soutar N.G ^[27] (2001)
Purchasing Intention	Fishbein & Ajzen (1980)

4.1 The Basic Characteristics of the Sample Statistics

In this study, 406 copies of questionnaires were returned. There are some questionnaires that showed a high degree regularity of the answers and an excessively short answer time, they have been eliminated from the valid sample. Ultimately, 362 questionnaires have been deemed to be valid questionnaires, the valid response rate is 89.2%.

The second part of the questionnaire surveyed 7 areas of basic information of the user. SPSS19.0 has been applied to make descriptive statistical analysis of 362 valid responses, results shown in Table 2. Sampling distribution conforms to the principle of sampling and is representative.

Table 2. The Basic Characteristics of the Sample

	Number	Percent		Number	Percent
Gender			Monthly income		
male	206	56.90%	3000 yuan or below	112	30.90%
female	156	43.10%	3001~6000yuan	103	28.50%
			6001~9000 yuan	75	20.70%
Age			9001~12000 yuan	43	11.90%
18-24	115	31.80%	12000 yuan or above	29	8.00%
25-35	207	57.10%	Investment account for income ratio		
36-45	35	9.70%			
46-60	5	1.40%	10% and under	86	23.80%
			10%~30%	161	44.50%
Education			30%~50%	51	14.10%
high school	8	2.20%	50%~70%	44	12.20%
Junior college	85	23.50%	70%~90%	17	4.60%
undergraduate	141	39.00%	90% and above	3	0.80%
postgraduate	119	32.80%			
phD graduate	9	2.50%	Occupation		
			student	153	42.20%
Area			civil servant	68	18.80%
east	53	14.60%	state-owned enterprise	32	8.90%
central	102	28.20%	enterprise	89	24.60%
west	207	57.20%	liberal professions	20	5.50%

4.2 Reliability and validity analysis

In confirmatory factor analysis, each factor loading is greater than 0.7, T test is significant. The average variance extracted amount AVE is greater than 0.5, the combination of reliability CR is greater than 0.7, convergent validity is checked by. As shown in Table 3.

In the discriminant validity of the test results, the value of the diagonal represents the square root value of latent variable average variance extracted (AVE), it should be greater than the value of the non-diagonal, if so, discriminant validity of the questionnaire is checked by, as shown in Table 4.

Table3. Reliability and validity analysis

Latent Variable	Observed Variable	After Deleting Cronbach's α Value	Cronbach's α Value	Factor Loading	AVE	CR
Perceived Risk	S1	0.775	0.885	0.756	0.659	0.885
	S2	0.751		0.814		
	S3	0.791		0.708		
	S4	0.803		0.678		
Personal Innovation	C1	0.703	0.765	0.589	0.593	0.814
	C2	0.755		0.631		
	C3	0.709		0.64		
Product Cognition	B1	0.744	0.831	0.842	0.748	0.899
	B2	0.788		0.748		
	B3	0.766		0.773		
Attitude towards Action	L1	0.549	0.693	0.715	0.62	0.83
	L2	0.581		0.685		
	L3	0.666		0.578		
Purchasing Intention	M1	0.725	0.799	0.751	0.715	0.882
	M2	0.788		0.670		
	M3	0.658		0.852		

Table4. Discriminant validity test

	Perceived Risk	Personal Innovation	Product Cognition	Attitude towards Action	Purchasing Intention
Perceived Risk	0.812				
Personal Innovation	-0.282	0.77			
Product Cognition	-0.259	0.27	0.865		
Attitude towards Action	-0.374	0.404	0.446	0.787	
Purchasing Intention	-0.551	0.246	0.374	0.515	0.846

The reliability and validity of the questionnaire have passed tests that can be done the next analysis.

4.3 Model Checking and Parameter Estimation

4.3.1 Model Fit

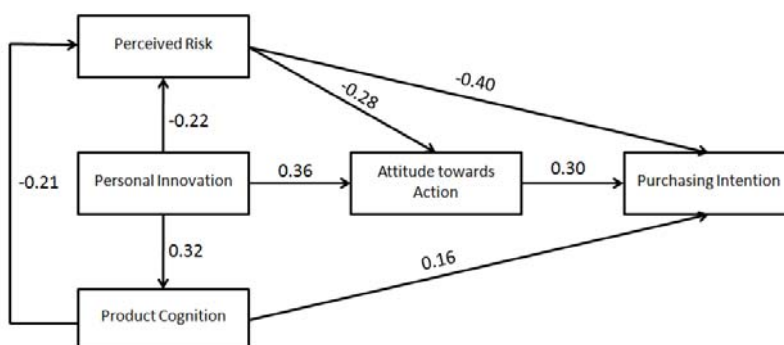
In order to verify the eight hypothesis that proposed in this study, structural equation modeling has been used to test the concept model, the adopted software is AMOS20.0. Model fitting index as shown in Table 5, the results show the conceptual model proposed in this study fit well.

Table5. Influential factor model's fitting index

Index	χ^2/df	RMSEA	NFI	AGFI	IFI	GFI	CFI
Observed Value	1.521	0.038	0.927	0.933	0.974	0.953	0.973
Reference Value	<3	<0.08	>0.8	>0.8	>0.8	>0.9	>0.9

4.3.2 The Concept model Test Results

After the conceptual model have passed the index fitting test,the study have used standardized path coefficients to reflect the impact path between variables,as shown in Figure 1.



*The undergo tests standard of significant test results is $P < 0.01$

Figure1. Standardized path coefficients

Test results show that eight hypothesis of this study are true, Table 6 shows the results of standardized path coefficient between variables and significance testing.

Table6. Standardized path coefficient estimates

Variable Relationships	path coefficient	hypothesis	Test Results
Personal Innovation--->Attitude towards Action	0.36	H1	***
Perceived Risk--->Attitude towards Action	-0.28	H2	***
Perceived Risk---> Purchasing Intention	-0.4	H3	***
Personal Innovation--->Perceived Risk	-0.22	H4	***
Personal Innovation--->Product Cognition	0.32	H5	***
Product Cognition--->Perceived Risk	-0.21	H6	***
Product Cognition---> Purchasing Intention	0.16	H7	***
Attitude towards Action---> Purchasing Intention	0.3	H8	***

*The undergo tests standard of significant test results is $P < 0.01$

5 Conclusions and Implications

5.1 Research Conclusions

This paper uses empirical method of structural equation modeling and uses an entry point that matters most to the individual characteristics of the consumer as the starting point, combining with the Internet environment and the financial product features.the model finally have select the personal innovation, perceived risk and product cognition this three factors as variables, established internet financial products affecting factors models. The empirical results show: (1) Consumers has a higher personal innovation would self-consciously weaken the perceived risk, at the same time,this kind of consumer promote themselves to improve product cognition level, also,product cognition have an negative impact on perceived risk. (2) personal innovation would affect the attitude towards action directly , perceived risk have an negative effect on attitude towards action purchasing intention, product cognition would positively affect purchasing intention, attitude towards action positively influence purchasing intention.

5.2 Management Inspiration

Finally the results of this study is to give real recommendations to the internet financial product enterprise: (1) through data mining method to give consumers a portrait,enterprise understand the status of consumer demand fully, then target product promotion to higher personal innovation individuals. (2) enterprise should focus on user experience in the process of information interaction , in the most concise expression way of all forms to express product information to consumers ,help consumers recognize products and improve product cognition. (3) Consumers 'perceived risk in the choice of internet financial products can be weakened by the above two ways, thereby they would increase purchasing intention of internet financial products.

ACKNOWLEDGEMENT

This research was supported by the National Social Science Fundation of China under Grant15BGL091.

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