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The Relationship between Subjective Norm and Perceived Usefulness on Behavioral Intention to Shop Online

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Abstract

Although there are many articles in developed countries researching the topic of online shopping, the situation is not so in China. Especially during the time of Covid-19, people's lifestyle has also been changed a lot. More and more people began to use online shopping as their main purchase channel. This paper will work out the relationships between subjective norms, perceived usefulness, and consumer behavioral intention, and then it tries to find how they influenced each other among Chinese university students by using a random sample of 100 university students at Changji University, it will build a solid theoretical framework to link the related factors and use SPSS as a tool to do data analysis and hypotheses testing.

Keywords

Subjective Norm; Perceived Usefulness; Behavioral Intention; Online Shopping.

1. Introduction

1.1. Background of Study

China's online shopping has existed for a long time since 2010. In 2022, the transaction scale of China's e-commerce market continues the trend of rapid growth, and the scale of online shopping users also grows steadily, further driving the fast development of the e-commerce market. Recent statistics show that in 2022, the number of online shopping users has reached 187 million, accounting for 41.6 percent of China's PC Internet users (China Internet Network Information Center 2022). In China's online shopping market, the B2C market become the main sector of the online shopping industry with the rapid growth. Especially during the three years of COVID-19, a series of lockdown policies further promoted the development of online shopping, which made the phenomenon of online shopping in China reach its peak.

1.2. Significance of the Research

Even though several papers could be founded on the topic of consumer online shopping intentions, there are still not adequate articles due to the differences between countries or regions. In addition, the suddenly appeared pandemic has changed many students' social life, especially in China. Therefore, exploring the relationship between students' up-to-date online shopping intentions and its determinants becomes a very necessary topic to study. In this circumstance, this study has high value for individuals and industries to evaluate for understanding the consumers' psychologies for future recommendations.

2. Literature Review

2.1. Dependent Variable

2.1.1. Online Shopping Intentions

Ajzen first introduced the definition of intention as an indicator that showing to what extent people would like to make a certain decision and how many attempts they are willing to reach

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this action (Ajzen 1991). He et al. said that lack of intention will lead to fewer purchases in the development of e-commerce. As mentioned before, we can find that TPB applied that purchase intention was most likely to be affected by subjective norm (He et al. 2008). Kim and Jones found that behavioral intention will not lead to purchase action directly (Kim and Jones 2009). However, Jamil and Mat explored that people's behavioral intention may have a positive impact on the actual online purchasing behavior (Jamil and Mat 2011). Orapin also assumed that based on the TAM model, PU and PEOU will influence the online shoppers' final decision. It means that the online website or retailers have to understand the people's purchasing intentions as well as behaviors to build a good relationship with consumers (Orapin 2009). Chela, Gillenson, and Sherrell used 253 samples to study how consumers accept online shopping by integrating the TAM model and innovation diffusion theory. It is confirmed that TAM can still effectively explain and predict consumers' online shopping behavior in the context of B2C. There is a strong correlation between intention and purchase behavior (Chen, Gillenson, and Sherrell 2002).

2.2. Independent Variable

2.2.1. Subjective Norm

Shi and Pan mentioned that people are social, and their decisions are often influenced heavily by colleagues, relatives, friends, and other personnel, especially when considering whether to adopt a new and risky information technology or not. When deciding whether to shop online, consumers will consider the perceived risks such as payment security and privacy security. In order to reduce the expected risks, consumers will communicate with others to get normative guidance. It makes people more sensitive to the influence and guidance of subjective norms (Shi and Pan 2010).

Lim et al. introduced external variables such as consumers' experience, perceived risks, and perceived entertainment into the technology acceptance model. With college students as the survey objects, factor analysis and correlation regression analysis were used to process the data. The results show that perceived usefulness, convenience, network experience, and perceived risk are the main factors affecting consumers' behavioral intention. Perceived entertainment and subjective norms also significantly affect consumers' online shopping intention (Lim et al. 2016).

2.2.2. Perceived Usefulness

Perceived usefulness is defined as how much the consumers feel the online shopping can add value or efficiency to them when performing the behavior. Chen defined perceived usefulness as an individual's perception that using a technological system would improve task performance and productivity (Chen, Gillenson, and Sherrell 2002). The research on perceived usefulness in different countries is also different. For instance, Hernandez et al. explored that perceived usefulness has a significant influence on online shopping behavior in Spain but Aghdaie et al. suggested that perceived usefulness does not have a significant influence on internet purchasing behavior in Iran (Hernandez et al. 2011; Aghdaie et al. 2011).

Cheng and Bao built a consumer acceptance model based on the TAM model by surveying consumers, the results found that consumers' perceived usefulness, convenience, and safety are the three key determinants that affect consumers' online shopping attitudes and intentions (Cheng and Bao 2003). The perception of online shopping has the most significant influence on online shopping attitude and intention.

Based on the TAM model, Enrique et al. added three more variables of perceived reliability, compatibility, and perceived service quality based on two variables of PU and PEOU. It is confirmed that the TAM model is still effective in interpreting and predicting consumers' online shopping behaviors (Enrique et al. 2008).

ISSN: 2688-9323

2.3. Hypotheses Development

Based on the previous study, the hypotheses were then developed;

H1: Subjective norm will significantly influence consumers' online behavioral intentions positively.

H2: Perceived usefulness will significantly affect consumers' online behavioral intentions positively.

H3: Subjective norm will significantly affect perceived usefulness.

3. Methodology

3.1. Research Framework

The theoretical framework for this study can suit the two independent variables better than the previous TPB and TAM models. It linked all dependent and independent variables together to present the relationship between SN, PU, and BI clearly. It also shows the hypotheses we would like to verify. The new modified theoretical framework is developed as shown in Figure 1.

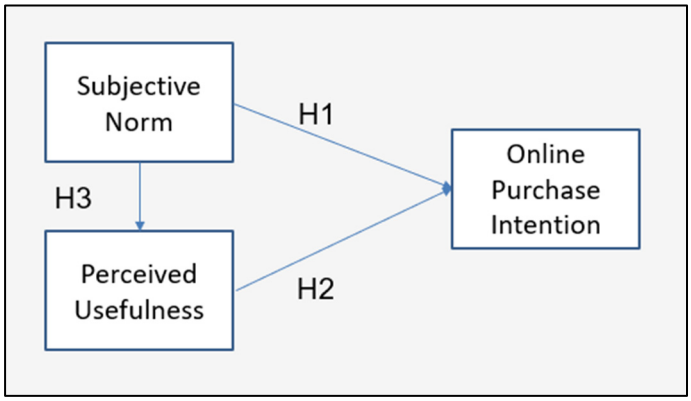

Figure 1. Theoretical Framework

3.2. Research Design

This research uses a quantitative method to distribute the questionnaires to both students and staff at Changji University. To guarantee the validity of this study, the questionnaires use close-ended questions with a five-point Likert-type scale method, and they also are translated into both English and Chinese by native Chinese-speaking scholars. In this case, it ensures the questions had the same meaning in both languages. The subjective norm items derive from Taylor and Todd (1995). Perceived usefulness items derive from Pedersen (2005) and the online behavioral intention items were adapted from David (1989). All related questions were generated from previous literature. The privacy of the participants is strictly protected and all names will be pseudonyms (Taylor and Todd 1995; Pedersen 2005; David 1989).

3.3. Population and Sampling

The respondents are selected from a wide range of full-time students, managerial departments, professional lecturers, and so forth. Those people can be regarded as the main groups of online shopping. The sampling and population will be selected randomly to make it the most generalizability. Most participants were youth. 92 questionnaires were collected out of 100, indicating a 92% response rate.

ISSN: 2688-9323

3.4. Instrumentation

Data will be collected and analyzed by using SPSS 28 as the instrument. And it will apply descriptive statistics, normality tests, reliability tests, Pearson correlation analysis, and multiple regression analysis to test all hypotheses.

4. Findings and Discussion

Table 1. Demographic Profile

Demographics	Categories	Frequency	Percent
Gender	Male	44	47.8%
	Female	48	52.2%
Age	18 or <18	1	1.1%
	18-25	10	10.9%
	26-30	22	23.9%
	31-40	33	35.9%
	41-50	18	19.6%
	50-60	8	8.7%
	60 or >60	0	0
Occupation	Full-time student	56	60.9%
	Management	9	9.8%
	Teaching staff	17	18.5%
	Others	10	10.9%

4.1. Reliability Test

Table 2. Reliability Analysis

Variables	Number of Items	Cronbach Alpha
Subjective Norm	9	.937
Perceived Usefulness	5	.918
Behavior Intention	7	.938

From Table 2, in general, Cronbach's α is above 0.9, it means the reliability of the test or scale is very good. The items are all extracted from the past literature, there are no items need to be deleted or changed. Therefore, the internal consistency of all variables (SN, PU, and BI) indicated that all items remained good.

4.2. Pearson Correlation

Table 3 shows that the correlation value between SN and BI is 0.661**; the correlation value between PU and BI is 0.840**. This means that the correlation between behavioral intention and all the variables has a value moderate relationship. The intention is significant to all variables (SN and PU) since they are significant <0.001 (sig <0.001) which is lower than the standard p<0.05 even <0.01.

The result shows that the correlation value between SN and PU is 0.658**. This means that the correlation between subjective norm and perceived usefulness has a moderate relationship. Sig<0.001 shows SN and PU also have strong significant relationships which proved H3 is accepted.

ISSN: 2688-9323

Table 3. Pearson correlation Analysis

Correlations

		SN	PU	BI
SN	Pearson Correlation	1	.658**	.661**
	Sig. (2-tailed)		<.001	<.001
	Sum of Squares and Cross-products	60.053	36.019	35.327
	Covariance	.660	.396	.388
	N	92	92	92
PU	Pearson Correlation	.658**	1	.840**
	Sig. (2-tailed)	<.001		<.001
	Sum of Squares and Cross-products	36.019	49.859	40.912
	Covariance	.396	.548	.450
	N	92	92	92
BI	Pearson Correlation	.661**	.840**	1
	Sig. (2-tailed)	<.001	<.001	
	Sum of Squares and Cross-products	35.327	40.912	47.565
	Covariance	.388	.450	.523
	N	92	92	92

**. Correlation is significant at the 0.01 level (2-tailed).

4.3. Multiple Linear Regression

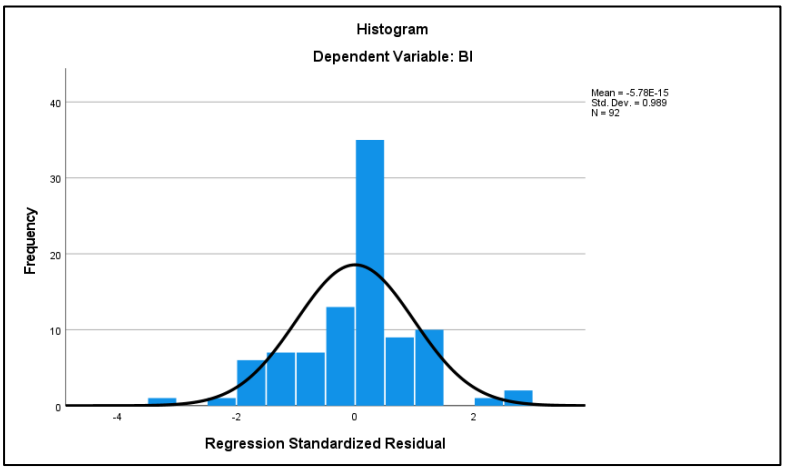

Figure 2. Histogram for variables

Before doing the linear regression, the data has to be verified by using the normality test, as discussed before, all variables can be clearly shown in a normal distribution (as shown in figure 2). Therefore, we can do a regression test in the next process.

In ANOVA table 4, F = 215.909 and 118.127, both P value< 0.05 (sig<0.001). The data were substituted into the regression model, and the regression equation was significant that means all independent variables can significantly influence the dependent variable.

ISSN: 2688-9323

Table 4. ANOVA Test for SN, PU, and BI

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.571	1	33.571	215.909	<.001[b]
	Residual	13.994	90	.155		
	Total	47.565	91			
2	Regression	34.550	2	17.275	118.127	<.001[c]
	Residual	13.015	89	.146		
	Total	47.565	91			

a. Dependent Variable: BI

b. Predictors: (Constant), PU

c. Predictors: (Constant), PU, SN

Table 5. Coefficients Test for SN, PU, and BI

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.643	.226		2.843	.006		
	PU	.821	.056	.840	14.694	<.001	1.000	1.000
2	(Constant)	.523	.224		2.329	.022		
	PU	.698	.072	.715	9.703	<.001	.567	1.765
	SN	.170	.066	.191	2.587	.011	.567	1.765

a. Dependent Variable: BI

In table 5, the coefficients figure shows VIF is equal to 1.765 and 1, the result shows that SN have a significant positive relationship with the intention of online shopping. Consumers may accept the behavior performed by their trusted persons such as peers and friends. Similarly, the relationship between PU and BI was found to be significant (sig<0.001) with a positive beta of 0.698. This indicates that perceived usefulness has a significant positive relationship with the intention to buy online. The reason for this hypothesis to be important is that consumers have a high tendency to purchase a product online when e-commerce provided information easy to be understood. It may increase their intentions to buy online when they found this purchase way can increase their benefits and productivity. Thus hypothesis 1 'Subjective norm will significantly influence online purchase intention positively' and hypothesis 2 can be accepted. Therefore, the model is well constructed. The formula of the model is as follows: y=0.523+0.17*SN+0.698*PU.

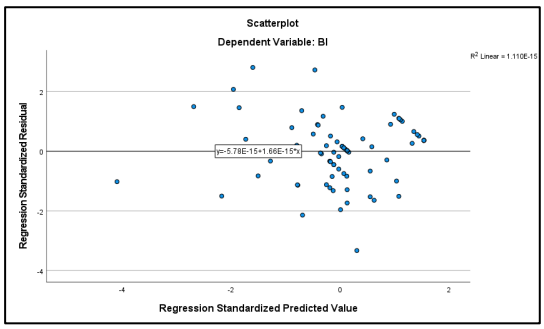

Figure 3. Scatterplot for Linear Regression Test

ISSN: 2688-9323

The result also shows that the relationship between subjective norm and perceived usefulness was found to be significant (sig<0.001) with a positive beta of 0.600. So, hypothesis 3 which statement is 'There is a relationship between subjective norm and perceived usefulness' is substantiated. Therefore, the model is well constructed. The formula of the model is as follows: y=1.831+0.6*SN.

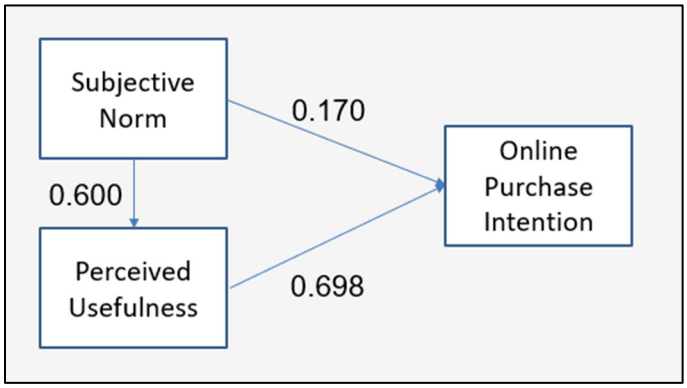

Figure 4. Tested Theoretical Framework

Figure 4 presents a summary of the hypothesis results from Multiple Regression Analysis. The first hypothesis which is 'Subjective norm will significantly influence online purchase intention positively' is supported while the second hypothesis which is 'Perceived usefulness will significantly influence online purchase intention positively' is supported. Nevertheless, the third hypothesis which is 'There is a relationship between subjective norm and perceived usefulness, that means subjective norm will significantly influence perceived usefulness' is also supported well. It proves that all three hypotheses are accepted in this study.

5. Conclusion

It can be found a large number of articles that analyze the influences between PU and PEOU. Compared to previous research, this study has shown a unique view to focus on the relationship between perceived usefulness and subjective norm, because there is not too much literature focused on this topic. However, there are still some drawbacks in this study need to be improved such as the samples chosen were too limited to only Changji University students and staff with an educational background. Thus, future study is suggested to select more samples and variables to explore.

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ISSN: 2688-9323

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