A RESEARCH ON THE INFLUENCE OF CHARACTERISTICS OF ONLINE SPORTING GOODS STORE ON CUSTOMERS' PURCHASE INTENTION BASED ON TAM – TAKE CHUANTT AS AN EXAMPLE

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Abstract. *Nowadays, with the flourishing development of e-commerce, how to attract customers better is a key point focused by the online sellers. However, in the fields of sporting goods, the research of purchase intention is nearly a gap. This article develops a model that studies the influence of characteristics of online sporting goods store on customers' purchase intention based on TAM, introducing the buying experience as regulated variable. Take Chuantt online store as a real example and make analysis. It turns out that shop prestige, goods quality, goods price, the speed of logistics and customer service have a significant influence on purchase intention through perceived usefulness and perceived ease of use. This research puts forward practical suggestions to Chuantt online store and other online sporting goods stores. At the same time, it makes up many gaps of purchase intention, buying experience and TAM research in academic sector.*
Keywords: TAM, Sporting goods, Online store, Buying intention, Chuantt

1. **Preface.** With the development of the Internet and logistics and the improvement of people's living standards, the e-commerce is developing very rapidly in China. On November 11, 2016, the Tmall broke the "11.11" sales record again with a sales volume of CNY 120.7 billion, a year-on-year growth of 32.3%, which is very amazing [1]. The total on-line trading volume is over CNY 180 billion on November 11, which is a new record [2]. With the vigorous development of China's e-commerce and Internet + sports, the Chuantt was established, aiming at the Chinese sports equipment market, focusing on on-line sales of sports equipment, is a new major force in the field of sports e-commerce in China.

Chuantt on-line store is operated by "Jinan Chuantt Information Technology Co., Ltd.", providing sports equipment and equipment customization services, which are mainly table tennis equipment. The company was established in June 2016 and has signed agreements with a number of well-known equipment manufacturers at home and abroad, selling sports equipment through the Chuantt official Taobao shop, official Weidian shop and other on-line sales platforms. It has only been six months since the sales of equipment, and the daily turnover has already exceeded 10,000 Yuan.

Based on the theory of TAM, this paper constructs a model to study the influence of shop factors on users' perceived ease of use, perceived usefulness and purchase intention, and introduces the adjustment variables of users' purchase experience. The process control is simple, and the comparability of the results is increased. This paper explores the influencing factors of the purchase intention of Chuantt on-line shop, to make up the gaps in the analysis of TAM model for the purchase intention of users in the field of sports goods, and to put forward specific suggestions for the construction and development of Chuantt on-line shop as well as on the sales of whole sporting goods industry.

2. **Literature Review.** The TAM is an open and flexible model, and the external variables can be adjusted appropriately according to the study. We assume the customers' purchasing behavior at the on-line shop as the technology acceptance behavior. The influencing factors affect the users' purchase intention at the on-line shop as the external variables of the TAM. The perceived usefulness and perceived ease of use are equivalent to the users' perception of the influencing factors of the on-line shop, then the perceived usefulness is the degree of users' purchase intention in the shop, and perceived ease of use is degree of the convenience and ease of users' purchase intention when browsing the shop. The purchase intention can be interpreted as the behavioral intention in the TAM. So based on this study, we introduce the TAM. On this basis, we study the influencing factors of users' purchase intention of Chuantt on-line shop, and also introduce the adjustment variables, i.e., whether the users have purchase experience in the shop, in order to form a contrast and clearly observe the differences between influencing factors of the expected and actual situations of the on-line shop.

Ha and Janda concluded that the purchase intention was largely influenced by consumer satisfaction [3]. Gan demonstrated that consumer perceived usefulness and ease of use have a positive influence on consumer satisfaction, and also directly affect the repurchase intention [4]. Therefore, the users' perceptions have the final influence on the purchase intention. We will simplify the original TAM model, using the purchase intention to replace the behavioral intention in the original TAM model, which is more suitable for this study. The purchase intention here refers to the customers' will to buy sports goods in on-line shop. Heijden reveals that the users' perceived ease of use for the website will promote the perceived usefulness [5]. If the store gives the users a strong sense of usefulness and ease of use, users will be able to feel the quality and convenience of the shop, the satisfaction of the shop will be greatly improved, resulting in purchase intentions. Meanwhile, if the shop is more beautiful and simple, and the faster the logistics, the more serious and specific of customer services, the users will have a greater opportunity to feel the usefulness.

When consumers buy products in the on-line shop, they will subject to factors such as experience and knowledge level [6]. If the consumers do not have the purchase experience, the perception of goods will mainly rely on indirect consumption experience, such as impressions, expectations and public awareness; and if consumers have purchase experience, the perception of goods will mainly rely on the previous consumption experience, that is, the actual purchase experience [7]. And Fazio and Zanna concluded that there is a significant difference in behavioral intention between the subjects relying on indirect and direct consumption experiences [8]. Purchased users are affected by the characteristics of Chuantt on-line shop, but for users without purchase record, the characteristics of the shop are assumptions and expectations in ideal conditions. Generally, there is a gap between the consumers' expectations and the actual conditions of the on-line shop. After comparison of the results, we can find which variables are behind the expectation.

In summary, we can conclude the influence model of sports goods on-line shop on user's purchase intention.

3. **Research Methodology.** The research model was shown below in Figure 1.
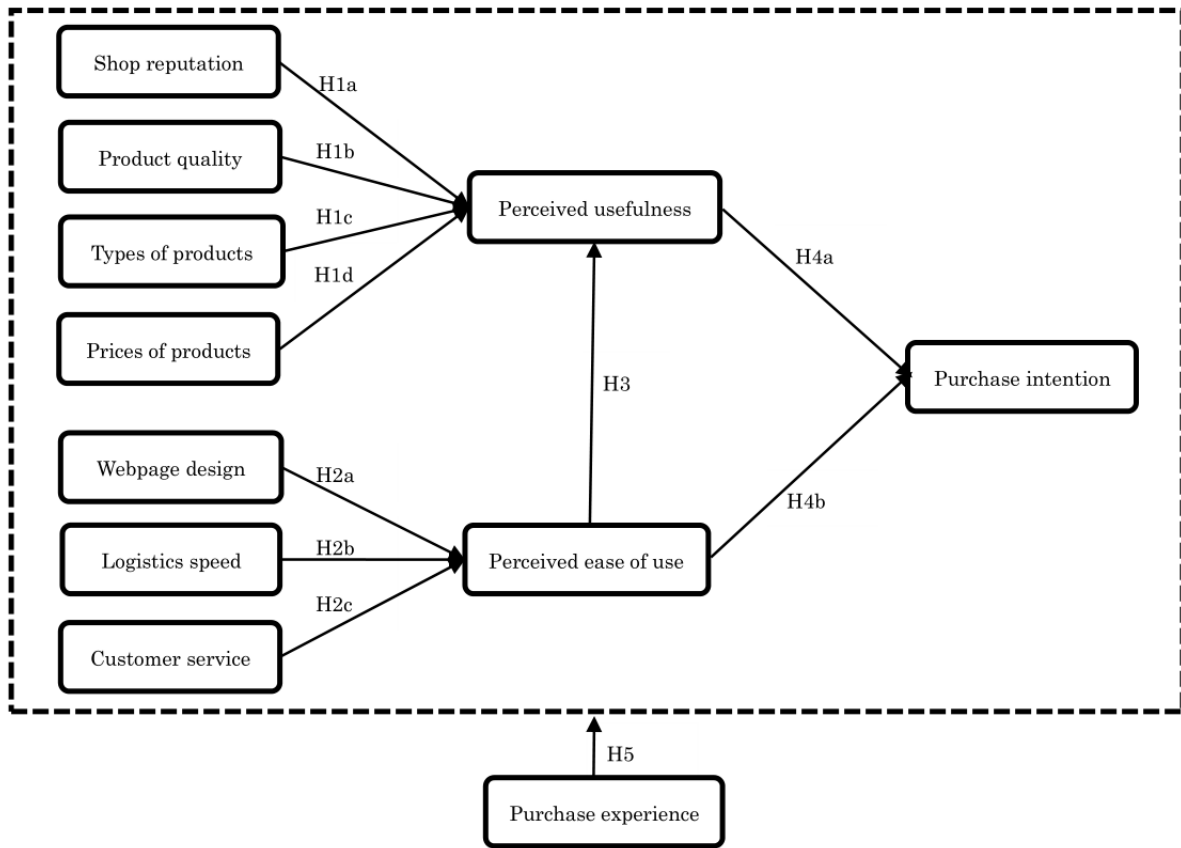

FIGURE 1. The influence model of sports goods on-line shop on user's purchase intention

4. **Data Analysis and Research Results.** For the data collection, because the on-line shop is selling goods on the Internet, the questionnaires are sent and collected on the network. The electronic questionnaires are released from the beginning of December 2016 on the Chuantt's WeChat Official Account to Chuantt's users and collected on December 15, 2016. A total of 498 questionnaires were received, including 456 valid questionnaires. The effective rate was 91.6%. In these effective questionnaires, male accounted for 82.6%, female accounted for 17.4%, the main group are 25 to 29 years old, accounting for 22.08%, the secondary group are 18 to 24 years old, accounting for 21.93%. Among them, 41.13% have more than 5 years on-line shopping experience. They all are table tennis fans in the sports industry.

4.1. **Reliability and validity analysis.** In order to ensure the effectiveness of the questionnaire results, firstly use the SPSS 18.0 and AMOS 19.0 for reliability and validity analysis. As shown in Table 1, the Cronbach's α values of each variable are greater than 0.8, indicating that the reliability is good; the Average Variance Extracted (AVE) of each variable is greater than 0.5, indicating good convergence. Table 2 shows the results of discriminant validity, the square root of the AVE values of the diagonal variables are greater than the correlation coefficient of the corresponding variables, indicating that the discriminant validity is good.

4.2. **Structural model analysis.** Fitting analysis through Amos, the data are acquired: $x^2 = 542.115$ (df $= 199$, p $= 0.000$); IFI $= 0.921$, CFI $= 0.0931$, GFI $= 0.852$, NFI $= 0.903$, AGFI $= 0.825$, RMSEA $= 0.078$, PNFI $= 0.780$, which basically are consistent with the proposed range of values, indicating that the model has a good degree of fitting.

TABLE 1. The factors Estimate, S.E., C.R. and Cronbach's α values

Variables	Item	Estimate	S.E.	C.R.	P	Cronbach's α	AVE
	XY1	1.123	0.067	7.618	***		0.654
	XY2	1.165	0.064	7.258	***		
Shop reputation	XY3	1.184	0.084	8.691	***	0.914	
	XY4	1.032	0.058	6.485	***		
	XY5	1.002	0.064	7.158	***		
	ZL1	1.195	0.068	6.597	***		0.726
	ZL2	1.156	0.064	7.159	***		
Product quality	ZL3	1.124	0.085	7.648	***	0.919	
	ZL4	1.127	0.074	8.134	***		
	ZL5	1.058	0.086	7.568	***		
	ZHL1	1.003	0.054	7.137	***		0.695
	ZHL2	1.056	0.049	6.497	***		
Types of products	ZHL3	1.324	0.068	8.795	***	0.878	
	ZHL4	1.024	0.062	6.549	***		
	JG1	1.184	0.068	6.321	***		0.688
	JG2	1.123	0.065	7.894	***		
Prices of products	JG3	1.136	0.064	7.138	***	0.908	
	JG4	1.158	0.061	9.134	***		
	JG5	1.063	0.059	6.147	***		
	SJ1	1.193	0.070	7.125	***		0.665
Webpage design	SJ2	1.124	0.084	6.413	***	0.815	
	SJ3	1.171	0.069	6.931	***		
	SD1	1.042	0.058	7.974	***		0.739
	SD2	1.030	0.061	6.807	***		
Logistics speed	SD3	1.149	0.060	9.024	***	0.932	
	SD4	1.181	0.057	7.547	***		
	FW1	1.144	0.059	9.353	***		0.727
Customer service	FW2	1.066	0.071	5.038	***	0.817	
	FW3	1.113	0.062	7.864	***		
	PU1	1.140	0.063	8.100	***		0.687
	PU2	1.197	0.062	9.376	***		
Perceived usefulness	PU3	1.175	0.070	6.876	***	0.923	
	PU4	1.161	0.069	6.859	***		
	PU5	0.992	0.069	4.355	***		
	PEU1	1.092	0.065	6.743	***		0.727
Perceived ease of use	PEU2	1.024	0.066	7.415	***	0.934	
	PEU3	1.100	0.068	6.420	***		
	PEU4	1.246	0.064	9.391	***		
	PI1	1.288	0.068	8.857	***		0.726
Purchase intention	PI2	1.275	0.071	8.028	***	0.925	
	PI3	1.264	0.064	9.899	***		
	PI4	1.206	0.064	8.915	***		

Through the path analysis, the coefficients between the variables are obtained. When the influencing factors are not considered, that is, regardless of whether the user has a purchase experience in the on-line shop, assuming that H1c and H2a do not hold, the remaining assumptions are true, as shown in Figure 2. When the influencing factors are considered, if the user has purchase experience in the on-line shop, then the assumptions H1c, H1d and H2a are not established, and the remaining assumptions are true; if the

TABLE 2. The AVE value of each variable and the correlation coefficient of each variable

	Shop reputation	Product quality	Types of products	Prices of products	Webpage design	Logistics speed	Customer service	Perceived usefulness	Perceived ease of use	Purchase intention
Shop reputation	0.809									
Product quality	.744**	0.852								
Types of products	.676**	.734**	0.834							
Prices of products	.676**	.818**	.703**	0.829						
Webpage design	.615**	.704**	.709**	.638**	0.815					
Logistics speed	.621**	.619**	.605**	.527**	.630**	0.860				
Customer service	.573**	.484**	.601**	.649**	.624**	.504**	0.853			
Perceived usefulness	.589**	.647**	.643**	.601**	.609**	.654**	.625**	0.829		
Perceived ease of use	.556**	.643**	.625**	.635**	.689**	.710**	.534**	.569**	0.853	
Purchase intention	.679**	.635**	.639**	.657**	.701**	.601**	.622**	.734**	.705**	0.852

Note: Numerical value of diagonal is AVE square root, correlation coefficient of each variable is under the diagonal, and ** is significantly related at the level of .01 (double side).
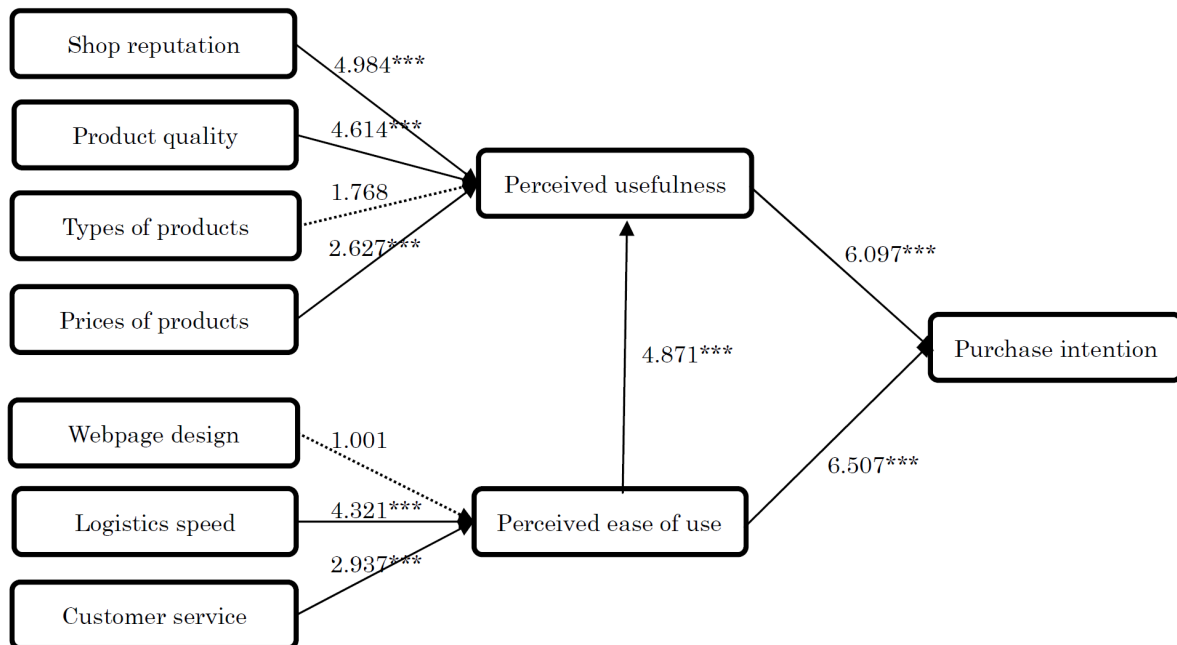
Note: The dotted line indicates no significant, *** means p < 0.001, ** means p < 0.01, and * means p < 0.05
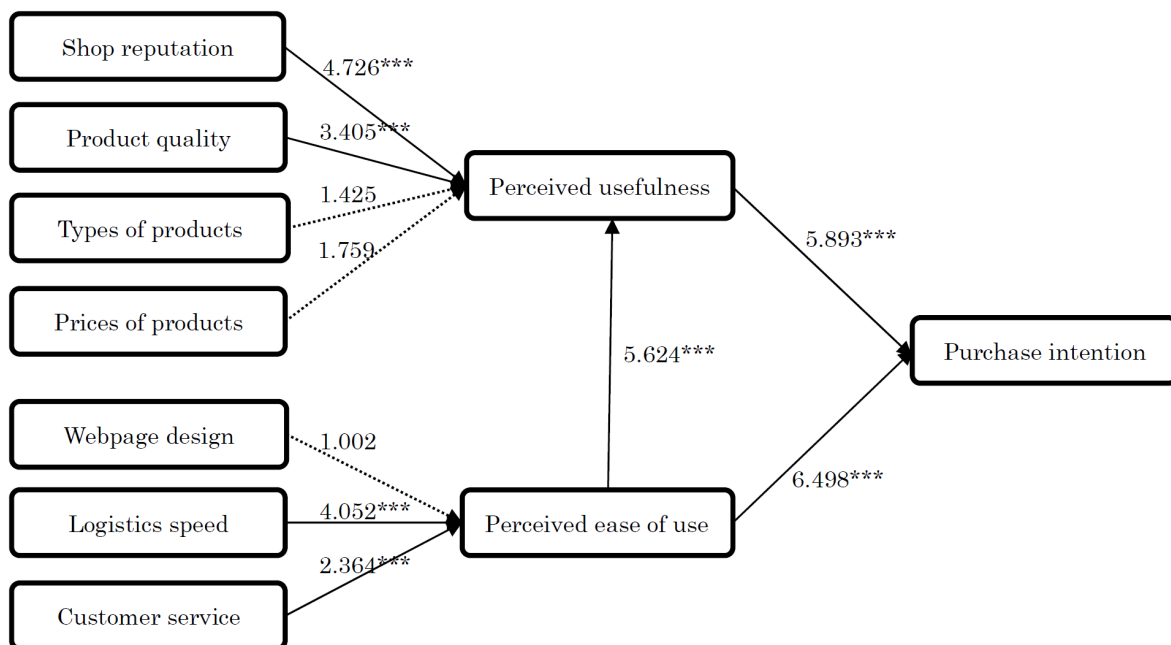
FIGURE 2. The standardized path coefficients of the influence of sports goods on-line shop on user's purchase intention (total)

user does not have purchase experience in the on-line shop, then only the assumption H2a is not established, and the rest assumptions are true. The final comprehensive results of the assumptions are shown in Table 3.

From the perspective of result, we can see that in Figure 2, Figure 3 and Figure 4, the characteristics of sporting goods on-line shop have a significant influence on the purchase intention through the users' perceived usefulness and perceived ease of use, in which,

TABLE 3. Result of testified hypothesis

	Hypothesis	Result
H1a	The shop reputation is positively correlated to user's perceived usefulness	Accept
H1b	The product quality is positively correlated to user's perceived usefulness	Accept
H1c	The types of products are positively correlated to user's perceived usefulness	Reject
H1d	The prices of products are negatively correlated to user's perceived usefulness	Accept
H2a	The webpage design is positively correlated to user's perceived ease of use	Reject
H2b	The logistics speed is positively correlated to user's perceived ease of use	Accept
H2c	The customer service is positively correlated to user's perceived ease of use	Accept
H3	User's perceived ease of use of the shop is positively correlated to perceived usefulness	Accept
H4a	User's perceived usefulness of the shop is positively correlated to purchase intention	Accept
H4b	User's perceived ease of use of the shop is positively correlated to purchase intention	Accept
H5	The user's purchase experience will significantly affect the research results	Accept

Note: The dotted line indicates no significant, *** means p < 0.001, ** means p < 0.01, and * means p < 0.05

FIGURE 3. The standardized path coefficients of the influence of sports goods on-line shop on user's purchase intention (with purchase experience)

for the characteristics influence the perceived usefulness, the shop reputation, quality of goods and prices are significant, and the most influential characteristic is the shop reputation, followed by the quality of goods. Among the characteristics that affect perceived ease of use, logistics speed and customer service are significant, and logistics speed has a relatively high influence. Perceived ease of use and perceived usefulness have a positive correlation, and both have a significant influence on the purchase intention. Perceived ease
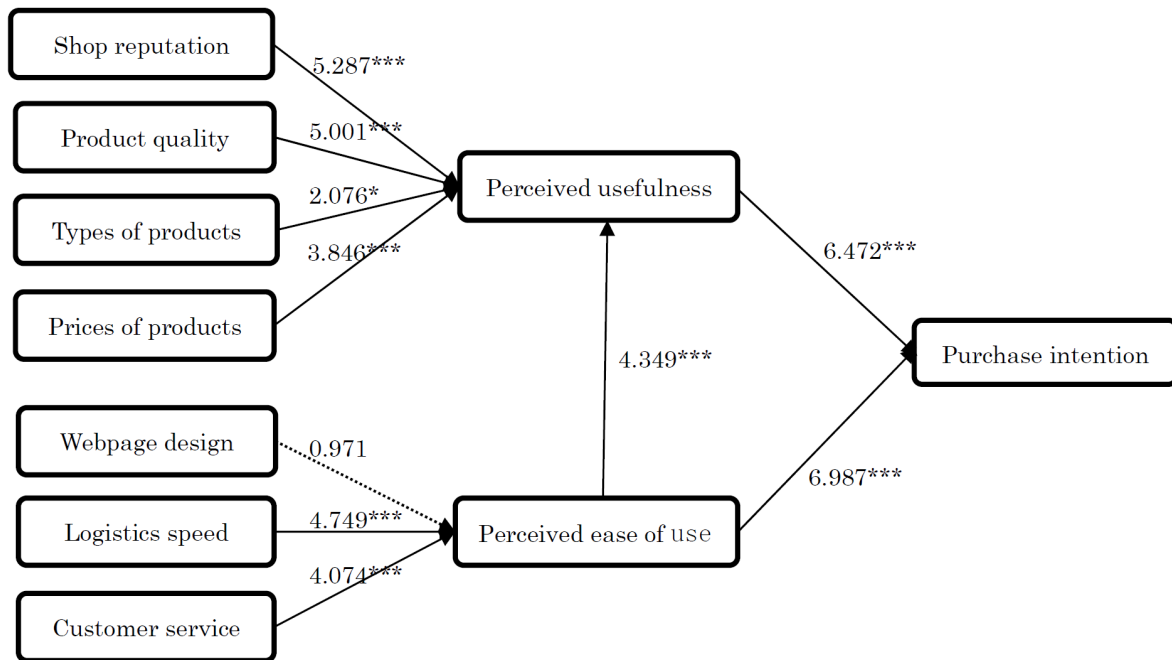
Note: The dotted line indicates no significant, *** means p < 0.001, ** means p < 0.01, and * means p < 0.05

FIGURE 4. The standardized path coefficients of the influence of sports goods on-line shop on user's purchase intention (without purchase experience)

of use is slightly more influential than the perceived usefulness. The influence of the user's purchase experience on the results of the study is significant; in the case of no purchase experience, the shop reputation, product quality, prices, types of products, logistics speed and customer service are all significant; in the case of having purchase experience, shop reputation, product quality, logistics speed, and customer service are significant, and the variables under purchase experience are less influential than the expected situation under no purchase experience. Whether with or without purchase experience, the perceived ease of use and perceived usefulness have a positive correlation, and both have a significant influence on the purchase intention. Under the circumstance of having purchase experience, the perceived usefulness and ease of use have less influence on the purchase intention than in the case of no purchase experience, but the ease of use has a significantly greater influence than the usefulness with the absence of a purchase experience.

5. **Conclusions.** With the rapid development of Internet and e-commerce in China, on-line shops have attracted attention from major enterprises, organizations and individuals of all ages. This paper takes the typical Chuantt on-line shop as an example, studying from the TAM perspective through the issuance of questionnaires, putting forward assumptions and analysis and verification.

This study has two meanings. First, this study takes the Chuantt on-line shop as an example, and the results have a very important meaning for the construction of the on-line shop. In particular, by adjusting the variables, by comparing the users' (without the purchase experience) expectations for the shop and the users' (with the purchase experience) real evaluation of characteristics of the shop, we can clearly figure out which aspects of the shop are below the expectation, which factors reduce the users' purchase intention; therefore, it can better improve the shortcomings of the on-line shop and know the users' purchase intention. Second, as a typical sporting goods on-line shop, Chuantt has the common characteristics of on-line shops in the sports industry. This study and

analysis of the results can provide reference for the sporting goods on-line shops, to better capture the users' purchase intention, and take appropriate measures to increase the users' purchase intention and to promote the purchase behavior.

There are some limitations in this study. This paper studies the users of Chuantt, although the influencing factors on consumers' purchase intention of table tennis can reflect that of the sporting goods industry, there are some differences between the on-line consumers of table tennis and those of the whole sports industry. The study in the future shall focus on not only consumers of the table tennis, but also those from a number of sports on-line shops, in order to strengthen the representativeness of the samples, making the results more reliable.

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