

MULTIPLE EFFECTS OF TRUST ON PURCHASE INTENTION BASED ON THE TECHNOLOGY ACCEPTANCE MODEL

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ABSTRACT. *This paper breaks through the traditional mode of single variable and separate research. Based on the technology acceptance model (TAM), this paper centers on the factor of trust. Regarding trust as the independent variable, the antecedent variable, and parameter, this paper explores its relationship with various factors and impacts of purchasing intentions of online shoppers. Firstly, this paper studies the researches of scholars at home and abroad on various factors and purchasing intentions of online shoppers. This paper makes literature reviews of researches on trust, providing theoretical bases for model construction and analysis. The most-referenced four variables which are trust, website design, logistics, and perceived risks are selected. Then, this paper conducts a questionnaire survey from the perspective of consumers, fully analyzing and researching changes of purchasing intentions of consumers as well as connections between trust, website design, logistics, and perceived risks.*

Keywords: TAM, Trust, Purchasing intentions of consumers, Perceived risks

1. **Introduction.** The Internet industry has taken off since the 21st century. With the development of the network technique, the E-commerce relying on the Internet has also got substantial success. Since 1994, E-commerce has been around for over 20 years, and great changes have taken place in products, services and the medium of payment. According to the data from 100EC.CN, the E-commerce trading volume has reached 18,300 billion yuan by the time of 2015, an increase of 36.5%, an increase amplitude of 5.1%, among which, the trading volume of B2B was 13,900 billion yuan, an increase of 39% and the trading volume of electronic retailing was 3,900 billion yuan, an increase of 35.7%, accounting for 12.8% of the total retailing trading volume in the society. The mainstream E-commerce sellers have taken a series of measures to cater to the customers during the development, such as optimizing the shops' simulation, delivering goods within 3 days, and consuming credits used as cash. At the same time, more and more sellers began to pay attention to the design of the webpage, the timeliness of the delivery, the high quality of the goods and the accuracy of the information of the product. All of these positive changes are driving E-commerce to take off.

First, this essay researched on the factors and the purchasing purpose of online customers from national and international professors, and what is worth mentioning, the literature review on the research of trust provides the theory basis for the model building and analyzing alike in this research. The essay picked four mostly used variables: trust, website design, logistics and risk perception. And the following is questionnaire in stand

of the customers. The questionnaire fully analyzed the relationships between the customers' purchasing purpose and the four factors: trust, website design, logistics and risk perception.

The essay chose the people who have online shopping experiences as target group to do the questionnaire, and made the result as the original data of this research. According to the data, trust, website design, logistics and risk perception are the main factors that influence customers' purchasing purpose. The essay researched possible factors that may affect the customers' purchasing purpose from their perspectives, which takes trust as the core, and analyzes how it works together with logistics, website design and risk perception to influence the customers' purchasing purpose. In addition, based on the research, the essay gave some advices and suggestions about perfect services as well as improved the customers' purchasing desire from the sellers' angle.

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2. Literature Review. E-commerce has a lot of advantages over the traditional way of shopping. Its convenience and outstanding customization give access to a more convenient life for people. However, in the final analysis, E-commerce is just a form of trade like the traditional sale, which needs to increase the customers' purchasing purpose and needs to keep its existence. Therefore, the factors that influence customers' purchasing purpose are the key point of E-commerce development research.

Jarvenpaa et al. considered brand, reputation and the quality of service as the important factors on online purchasing purpose [8,11]. Ranganathan and Ganapathy figured that the content of information, design, safety and privacy are four main factors that affect online shopping, and safety combined with privacy counts a lot in influencing customers' online purchasing purpose [14]. Wu thought that the degrees of customers' mobile shopping are as follows: the degree of trust of the mobile shopping platform, outside environment, the degree of the risk factor, the degree of convenience factor during the mobile shopping process, pleasure, trade cost and the degree of trust in the E-commercial enterprises, etc. Obviously, we can see that customers' purchasing purposes are affected by trust, logistics, and risks [15]. Wang and Fritstiono handed out questionnaires about factors that influence customers' purchasing purpose on Facebook and Line [2]. Among the 375 replies, they concluded that customers' trust is the most outstanding factor. Rouibah et al. thought that an online trust model is influenced by four outside factors, which are as follows: the innovation of the website, customers' inclination, the degree of acquaintance, and the existence of the third party platform, and they also raised that the trust of customers and the enjoyment of shopping process influence customers' purchasing purpose [9]. Li mentioned that trust is a muleteers concept, and it can make people naturally share their personal information, shopping, online comment and advice. This essay also studied trust together with the other three factors (the degree of network usage, personal innovativeness, the quality of website), and did research about trust influencing the purchasing purpose by targeting four degrees "personality trust, trust based on the institution, trust belief and trust purpose" [5]. Considerable researches about E-commerce trust influence factors at home and abroad proved that the research began to move from the whole theory to researches about targeted regions or fields. Norhayati et al. raised that the basis of trust is the E-bank, and did researches on travel and traveling product industry, from which they concluded that state of good credit is reliable on purchasing purpose [10].

In present research documents, discussions about the influence of trust on E-commerce often use the “build model + prove model + conclusion” method. In the model building part, most researchers just raise the model targeting one factor and only study the effect of trust, thus neglecting the other factors’ effects, which is not concrete and fails to analyze the problem from multi-angles.

A nice social environment is positive to the development of everything. While a positive environment can affect the psychology of customers and sellers by consensus and customary, as a consequence of which, barriers can be built between people, which prevents the building of trust and influences the trade. Researchers did not explore the current social environment and system deeply. They failed to deeply dig up the relationship between preventing trust from emerging and trust influencing customers’ purchasing purpose. Consequently, this essay used trust as the basic point to study factors that influence customers’ purchasing purpose based on TAM.

3. Research Methodology. TAM considers that whether potential users use this technique or not is based on the knowledge of it: the usefulness perception and the easiness perception. Based on the point of view of TAM, both of them influence each other. Since TAM was put forward, researchers from all kinds of subjects began to do research by using it. When E-commerce came into people’s sight, TAM began to be used in the field of E-commerce. Gefen studied the network users’ using purpose towards shopping website based on the easiest TAM [7]. TAM is a new model proposed by Davis [1] based on theory of reasoned action (TRA) [3] and theory of planned behavior (TPB) [4], aiming at studying various influencing factors when the users accept new things and new technologies, as well as influences of a variety of external factors on the user’s attitude, awareness, feelings and behaviors. TAM argues that the users’ acceptance of new things or new technologies is primarily influenced by two structural factors, i.e., perceived usefulness (PU) and perceived ease of use (PEU). In them, the perceived usefulness is the users’ subjective sense of the effect of things on improvement of their performance and efficiency. The perceived ease of use is the users’ subjective sense of the ease when dealing with things. The improvement in perceived ease of use will promote the enhancement of perceived usefulness. The common promotion of these two will make the users have positive attitude towards new things, then affect the users’ behavioral intent, and eventually lead to actual use. In them, the perceived usefulness can also directly promote the behavioral intention. External variables are some stimulation factors, such as the external environment, and system characteristics [6], which will affect the users’ attitudes and behavioral intentions by influencing the users’ perceived usefulness and perceived ease of use.

TAM is not only useful in the study of users for the acceptance of new technologies and information systems, but also widely used in all areas, such as mobile business websites [3], open source software [6], blogs [12], on-line comments [4] and on-line shopping [13]. TAM is often used to analyze the influencing factors on users for usefulness, ease of use, attitudes and behavior of new services, new business platforms and new policies, and has a great and profound significance on understanding the habits and needs of customers and taking effective measures to improve the product services. Although TAM is widely used in business area and there are many examples in E-commerce, it is rarely used in the analysis of sports industry, especially in the E-commerce of sports goods industry, and there is a lack of academic study; there is also no precedence in the study of influence of purchase experience on sports goods industry.

The essay raised the model and assumption from three aspects: trust does effect on customers’ purchasing purpose separately as independent variable, antecedent variable and medium variable. The research model was shown below in Figure 1 (trust as independent variable), Figure 2 (trust as antecedent variable) and Figure 3 (trust as medium variable).

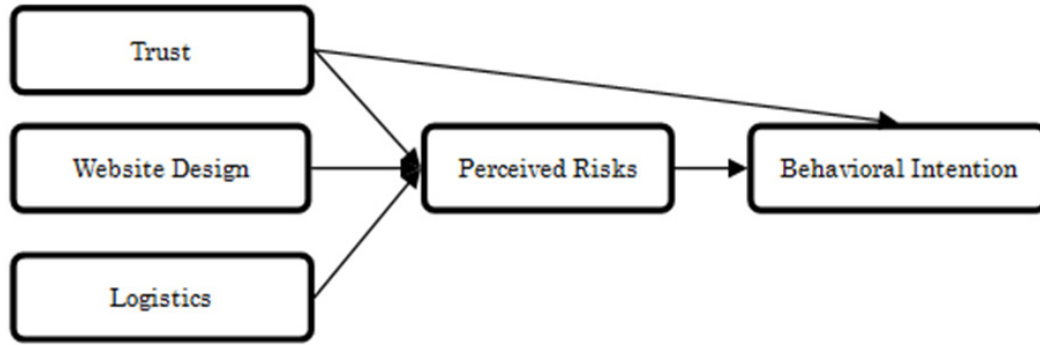


FIGURE 1. Research model 1

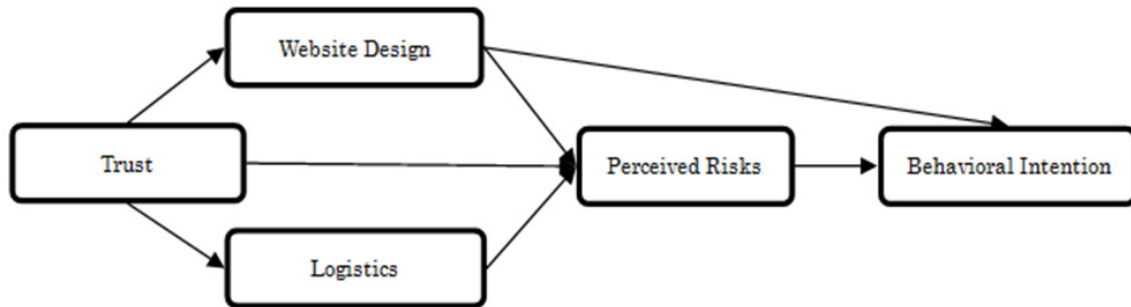


FIGURE 2. Research model 2

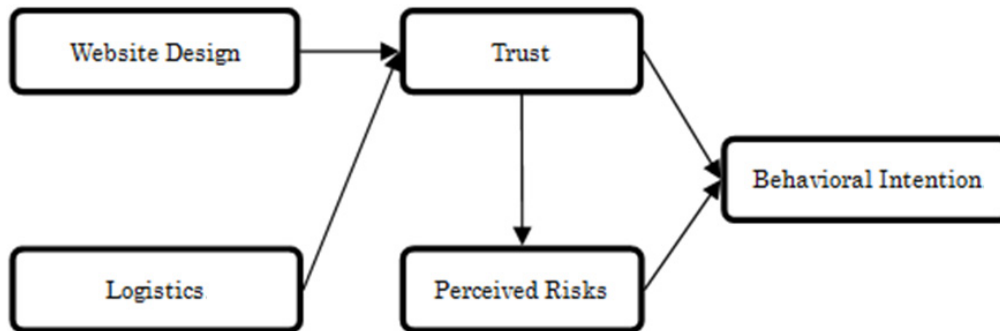


FIGURE 3. Research model 3

4. **Results.** From the result we can see that in the model fit, the degree of fitting of model 2 is higher, while model 1 and model 3 are a little lower. However, the ensemble does not affect the analysis of the result. From the angle of trust influencing other factors, all of the three models have positive effects on the risk perception of trust. Consequently, no matter what kinds of variables (independent variable, antecedent variable, medium variable) trust is, it always has positive effects on risk perception.

From the perspective of every model, we can see that in model 1, trust has positive effects on risk perception as an independent variable with logistics and website design, and risk perception having positive effects on purchasing purpose as well. This fact proves that trust influences the risk perception of customers positively and works together with other factors to affect risk perception. Risk perception and trust also have good influence on customers' purchasing purpose.

In model 2, trust takes a role as antecedent variable, positively affecting website design, logistics and risk perception, which means on the basis of built trust, customers can get

TABLE 1. Result

		Estimate	C.R.	P	Result
Model 1	Website Design → Perceived Risks	0.113	3.158	0.003	accept
	Logistics → Perceived Risks	0.547	8.613	***	accept
	Trust → Perceived Risks	0.201	4.988	***	accept
	Perceived Risks → Behavioral Intention	0.560	8.899	***	accept
	Trust → Behavioral Intention	0.396	7.275	***	accept
$\chi^2 = 1003.200$, DF = 178, P = 0.000, IFI = 0.841, CFI = 0.823, GFI = 0.798 NFI = 0.854, AGFI = 0.801, RMSEA = 0.095, PNFI = 0.730					
		Estimate	C.R.	P	Result
Model 2	Trust → Website Design	0.712	12.102	***	accept
	Trust → Logistics	0.857	15.322	***	accept
	Trust → Perceived Risks	0.268	2.896	0.005	accept
	Website Design → Perceived Risks	0.064	1.012	0.184	reject
	Logistics → Perceived Risks	0.668	8.548	***	accept
	Perceived Risks → Behavioral Intention	0.957	16.435	***	accept
$\chi^2 = 687.037$, DF = 178, P = 0.000, IFI = 0.935, CFI = 0.942, GFI = 0.882 NFI = 0.931, AGFI = 0.892, RMSEA = 0.053, PNFI = 0.882					
		Estimate	C.R.	P	Result
Model 3	Website Design → Trust	0.356	7.256	***	accept
	Logistics → Trust	0.638	14.365	***	accept
	Trust → Perceived Risks	0.821	11.778	***	accept
	Trust → Behavioral Intention	0.612	6.332	***	accept
	Perceived Risks → Behavioral Intention	0.487	5.121	***	accept
$\chi^2 = 923.355$, DF = 178, P = 0.000, IFI = 0.882, CFI = 0.858, GFI = 0.845 NFI = 0.883, AGFI = 0.811, RMSEA = 0.084, PNFI = 0.776					

keen on online shops in many aspects, and their perception towards whether the website is safe and gorgeous or whether the logistic is convenient can decrease. In addition, under the circumstance that trust acts as antecedent variable, website has no effect on risk perception, which accords with the common knowledge. In such situation, concerns about every kind of safety problems may not come from the outside of the website, and concerns about the leak of personal information or account number and code being stolen come from people’s psychological concerns about the uncertainty of online shopping and its results. In addition to that, as trust as the antecedent variable, logistics has positive effects on risk perception, which means that logistics shoulders great trust as the strong transport in E-commerce. The safety of logistics cuts down the customers’ concern to a great extent, and it also strengthens customers’ purchasing purpose. Last, trust has positive effect on purchasing purpose as antecedent variable, which figures that trust brings sense of safety to customers, and the risks and fake information and fake websites that customers can sense are decreased by trust, thus increasing customers’ purchasing purpose.

In model 3, as a medium variable as trust is, both website design and logistics have positive effect on trust, which proves that the whole design can affect the degree of trust of customers, and websites short of design may weaken their degree of trust. Secondly, trust has positive effect on both risk perception and purchasing purpose, which means that the degree of trust can directly influence the intensity of risk perception. Full trust can dispel customers’ concerns about the risks and strengthen their purchasing purpose. Last but

not the least, risk perception has positive effects on purchasing purpose, which reveals that affected by website design and logistics, trust positively influences customers' risk perception, customers' object judgment towards whether risks can happen changes and their prediction towards danger decreases. With risks decreasing, customers who choose online shopping can have enough confidence and capability to bear risks.

After researching different circumstances that are caused by the influence trust has on purchasing purpose, in order to raise customers' potential purchasing purpose and promote the online purchasing behavior of customers, the essay gives following suggestions.

First of all, as customers get to know the sellers through websites, embodying parts like "about us", "shop details" in website design can decrease customers' risk perception and increase their purchasing purpose. Secondly, nowadays, most of the introductions of products in online shops, are basically exaggerating descriptions, seemingly every function of them areal-purpose. Many shops take detailed photos of products, especially the clothes shops, which may invite professional models to do the presentation. It seems that every style is gorgeous, but when the customers buy the same clothes that are not like what they should look like, customers' trust towards online shops are thus decreased. Some sellers merely present the advantages of products without noticing customers of the disadvantages. In this way, customers get the product through online shops without their own judgments and may be surprised to find that it is far from what they thought. Even worse, customers may make negative feedback to the shop, thus decreasing the creditworthiness of the shop. As a consequence, as the fundamental special content of online shops, sellers should highlight the advantages as well as the disadvantages. Only in this way, can the disputes be decreased. It can also help to get shops higher opinions and improve creditworthiness as well.

Moreover, if the sellers want to realize transforming flow to long term profits, they should provide integral service, which can make customers sense their professionalism and diligent intention, which improves the rate of transformation and makes customers rely more on the shops. Sellers can build a sale model which makes customers enjoy, neglecting complex sessions, and eliminating the inconvenience during the shopping process. The current situation is that the majority of online shops merely want to sell out their products and get great profits, in which case, the customer service staffs of online shops are just enthusiastic to potential buyers. In concern of the customers who want to return the products or lodge a complaint, the service staff will fob customers off safely, like being indifferent or even put the customers into the blacklist. Honestly, these behaviors are common. However, behaving like this can decrease shops' creditworthiness. So in the term of increasing shops' creditworthiness, the customer service staff's behaviors will be the key factor. No matter how many products they have sold, if they get staff like what we have mentioned before, they would finally get creditworthiness to plummet.

Thirdly, sellers should attach significance to their sale policy, return policy and guarantee policy, etc. Sellers should increase the degree of trust in detail and meanwhile, dispel customers' concerns by get return policy more detailed. Customers prefer sellers with good creditworthiness, high volume and higher opinions. Only by improving degree of trust of customers' combined with caring customers' shopping experiences can sellers get better development in tide of E-commerce.

The outcome of this research was listed as follows.

First is the limitation of studied group. This essay takes youths especially students as subject investigated, and fails to get people of other class involved; as a consequence, the universality still needs to be improved.

And next comes the limitation of research variable. The main factor – trust that the essay studied on is picked up from massive literature reviews. While there exist other variables that have effect on customers' purchasing purpose, like addiction, value perception, risk perception and entertainment perception, complex relations of which are

not specially analyzed in this essay. Because there has been no analysis of 3 models around a single factor in an article, this article still has some achievements, and analysis of several variables from different angles can be done in future researches.

5. Conclusions. There still exist a lot of problems triggered by trust and risk perception in the developing process of current E-commerce. This essay did the research from the customers' angle, and broke the traditional research model about a single variable. It changed the previous TAM model, building three models which take trust as core, fulfilling the blank about analyzing trust from multi dimensions in E-commerce, and providing theory basis for the future development of E-commerce to some extent.

According to the detailed analysis and summary of data of the three research models around trust, we can get following conclusions: trust as independent variable has positive effects on website design, logistics, risk perception and customers' purchasing purpose; trust as the antecedent variable of website design and logistics has positive influences on customers' purchasing purpose together with risk perception, among which, trust has positive correlation with website design, logistics and risk perception, and website design has no correlation with risk perception, and trust as the medium between website design, logistics and risk perception has positive effect on customers' purchasing purpose.

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