How to Understand the Role of Trusted Third Party in the Process of Establishing Trust for E-Commerce?

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Abstract

According to the results of related empirical studies, the Trusted Third Party (TTP) is an important factor that can promote consumers’ trusting intentions and influence their trusting behaviours. However, they are often confined to the specific service types, such as TTP security and privacy certifications, while ignoring the fact that the TTPs also have functions such as logistics distribution, insurance and recommendation in the actual application process. Thus, in order to better understand the role and significance of TTPs for the online trust building process, it is necessary to appropriately extend the functions of TTPs and conduct more in-depth research and exploration of its roles and effectiveness. Based on literature review and a small-scope interviews of consumers, this paper proposes a TTP-based consumer trust behaviour model with the viewpoint that consumers’ trusting intentions are influenced by their perceived types, forms of presentation and reputations of the TTP services.

Keywords

Trust, behaviour, trusted third party, service type, presentation form, reputation.

Introduction

The development of e-commerce needs a secure environment, with reliable protection on customer’s privacy and security measures during the transaction process (Cook and Luo 2003). Studying consumer’s behaviour on personal security can make us optimise and even enhance consumer’s personal experience in the B2C environment, and then improve the potential transaction volume (Guan and Lala 2017). Researchers and practitioners in the field of e-commerce are trying to promote consumers’ perception of personal security through a variety of way in order to build their trust in the enterprise. Among them, Trusted Third Party (TTP) has become widely used for regulating business operations and enhance consumer recognition of security and privacy. However, current research on TTP is often limited to security and privacy authentication, while its function in providing logistics distribution, insurance and recommendation. Therefore, this paper argues that in order to comprehensively and deeply understand the impact of TTP on consumer’s secure behaviour, we should consider the different service frameworks of TTP comprehensively, and explore the relevant factors that affect the intention of consumer behaviour. Only in this way can we more accurately explain the consumer’s behaviour in pursuing personal security, and provide a valuable reference for enterprises when choosing TTP.

TTP is defined in this study as: the third-party economic entities on the market aiming at overcoming credit obstacles and credit risks in the e-commerce model, enhancing the credit information and integrity awareness on the e-commerce market, increasing the online transaction quantity and promoting the sustainable development of e-commerce. In the e-commerce environment, TTPs provide an important reference for consumers to judge the qualifications and integrity of e-commerce companies, and also greatly promote the formation of trust (Guan and Lala 2017).
In previous studies, the questionnaires are usually utilized for exploring the influence of TTP on consumer behaviours (Hu et al. 2010). However, due to the widespread existence of the extraneous variables, data collection based solely on questionnaires is not sufficient to make an accurate judgment of the causal relationship between the independent variable (TTP) and the dependent variable (trust intention). Therefore, this study decides to simulate an online shopping scenario in a controlled laboratory environment to examine the influence of TTP on consumers’ trust intentions by providing stimuli.

**Literature Review**

In an e-commerce model, the two types of trust issues are faced by both parties of the transaction: Credit Obstacle and Credit Risk (Cao et al. 2016). Credit obstacle refers to the situation that the credit information of both parties in the transaction cannot flow freely between them and the inaccessibility of information leads to the lack of understanding of the credit status of the other party, thus lack of trust (Hong-ling and Guang-xing 2011). This is why it is difficult for a multitude of small and medium-sized enterprises to attract consumers because they have no established reputation. Credit risk refers to the possibility of incurring losses to the other party because one party of the transaction fails to perform promises of the contract with the other party (Cheung and Lee 2006). To some extent, online transactions may worsen the information asymmetry between related interested parties. The information asymmetry makes online fraud easy, which in turn leads to a decline in the trust of both parties, and further deteriorates the credit environment for e-commerce (Cao et al. 2016; Guan and Lala 2017).

Thus, the interaction of credit obstacles and credit risks jointly influences further development of e-commerce. In order to solve these two problems, the e-commerce market needs to have an objective, fair and authoritative TTP for transfer of credit information in the online transaction process, publicize fraudulent behaviours, and certify trustworthy enterprises.

The main role of TTPs is to enhance the creditworthiness of both parties of online transactions, ensure trustworthy transactions and reduce dishonest transactions (Cook and Luo 2003; Guan and Lala 2017). This trust establishment mechanism is realized through the following functions: one is the credit information transfer function; and the other is the credit publicity.

TTPs have the information transfer function, which can promote the flow of credit information among different parties so that they have a better understanding of credit status of each other before transaction (Cook and Luo 2003). In an e-commerce environment, the majority of transaction parties are strange to each other, so it is not easy to build a trust relationship. Therefore, both parties need a third party for matchmaking and contribute to the building of the trust relationship between them. In case of the presence of third parties, the credit information of both parties in the transaction flows between consumers and enterprises and eventually achieves transparency of credit information. Consumers’ trust in enterprises is built on their trust in TTPs. This chain relationship can transfer the trustworthy information of the enterprise to consumers and finally build up their trust in such enterprise.

TTPs also have a second function for the trust building of e-commerce, which is binding and regulating the behaviours of relevant online interested parties by publicizing the market credit information for further achieving the purpose of screening market entities (Cook and Luo 2003; Özpolat and Jank 2015). With the credit publicity mechanism of TTPs, the credit status of enterprises becomes publicly available information overseen by the public. In fact, this puts pressure on enterprises and increases the cost of fraud or breach, so that they should consider short-term interests only. If any fraud or breach is recorded and publicized by TTPs, such records will become the basis for the public to evaluate the credit status of enterprises. Dishonest enterprises will have gradually decreasing transactions until completely being eliminated from the market. In view of this overseeing mechanism, enterprises will cherish their own reputation even more and operate it as a valuable asset, and then the credit awareness of the entire e-commerce market will be correspondingly improved.

**Theoretical Foundation and Hypotheses Development**

In this paper, consumers’ behaviours are generally considered as consistent with the interpretation of the Theory of Planned Behaviour, that is, the behavioural decision is controlled by their own intention and rational. Consumers are often restricted by time, money, information and personal ability, so their
behavioural intention is influenced by other factors (Ajzen 1991; Cao and Yan 2014). As further pointed out by Cao and Yan (2014)’s study, consumers’ personal attitude, online reviews and TTPs are the three main influencing factors of behavioural intentions in the online environment. Taking online trust as an example, if consumers’ trust attitude and online reviews are more positive and TTPs provide stronger support, consumers have better trusting intention, vice versa.

Based on the above theories, the influencing factors of consumers’ trusting intention are mainly divided into personal attitude, online reviews and TTPs. The consumers’ trusting intention is the dependent variable and TTP is the independent variable of this experiment. Other possible influencing factors of the consumers’ trusting intention, such as online reviews and consumers’ personal attitude, are exogenous variables under strict control in this laboratory experiment. By control of exogenous variables, their influence on the experimental results is reduced and a relatively high internal validity is obtained, thus laying a solid basis for explaining the causal relationship between TTPs and trusting intention. The proposed research model is shown in Figure 1.

**Figure 1. Proposed Research Model**

In an e-commerce environment lack of trust, a reliable TTP can play an enormous role. In a virtual environment, consumers often transact with a particular enterprise for the first time, so they expect extra reliable third-party protection. According to Cook and Luo (2003), the trust of TTPs can effectively enhance consumers’ perception of trust. Hu et al. (2010) further points out that the trusted third party has the most important influence on the consumer trust. Guan and Lala (2017)’s study also proves that TTP has a significant influence on the consumer trust. Hence, the following hypothesis is proposed:

**H1. The consumer-perceived TTP has a positive influence on consumers’ trusting intention.**

Currently, only few studies have been conducted on the TTP service system, and most of them only point out and demonstrate the role of TTPs in the trust relationship and their influence on the trusting behaviours. For example, existing studies show that TTPs can win consumers’ trust in online merchants; privacy protection can effectively reduce distrust of consumers; and the secure and reliable third-party payment may effectively increase the potential transaction quantity of consumers etc (Cook and Luo 2003; Guan and Lala 2017; Head and Hassanein 2002). These studies mainly reveal the influence of a certain type of TTP services on consumers’ trusting behaviours, but not a complete theory has been formed yet on the study of TTP service system.

Through literature review, small-scope consumer interviews and summary of TTP service types in the current market environment, this study proposes that a complete TTP service system should include the following five dimensions: payment institutions, logistics and distribution organizations, security institutions, certification bodies and rating agencies.

Payment institutions refer to specific entities to deal with financial operations of online transaction counterparties, mainly including banks, credit card organizations, third-party payment institutions and other financial institutions. Through such institutions, consumers’ concerns about payment security, payment information leakage and transaction information alteration can be effectively alleviated, thus strengthening their controllability of the related payment information, enhancing the consumers’ trusting motivation and ultimately influencing their trusting behaviours.
Logistics and distribution organizations refer to enterprises which are responsible for logistics and distribution of online transactions, mainly inclusive of the postal logistics system and third-party logistics enterprises etc. Logistics and distribution organizations are intermediaries between consumers and dealers. Their service quality, credit status and reputation may influence consumers’ trusting motivation.

Security institutions mean the type of companies which provide the online transaction security and insurance services, mainly including financial enterprises which provide compensation for the transportation process and damage and replacement of commodities. The guarantee and compensation provided by third-party security institutions for online transactions can effectively transfer risks in the online shopping environment and thus increasing consumers’ trust in potential transaction behaviours.

Certification bodies refer to third parties that provide the quality certifications for the security, privacy and services of enterprises, mainly including various types of service and quality certification bodies, accreditation bodies as well as part of law, accounting and auditing firms. These bodies can provide the reliable, clear and useful information consultancy and authentication services to consumers, effectively improve the transparency of credit information in the e-commerce environment, and play a certain role in avoiding credit risks.

Rating agencies are a kind of organizations independently providing relevant product testing and company evaluation, mainly including professional product use and testing companies, industry associations, company rating and recommendation agencies. Consumers may browse independent evaluation information to gain an understanding of products, services and dealers, and therefore effectively remove the credit obstacles and enhance the potential trusting behaviours.

A complete TTP service system should include the five different types of organizations above, which jointly influence consumers’ trusting motivation and behaviours. Through constructing a complete service system, the level of consumer trust can be more fully strengthened. If more TTP service types are owned by an enterprise, consumers fewer obstacles for their expected future trust and a strong sense of control over their own trusting behaviours, and ultimately increase the consumers’ trusting intention. Therefore, in this paper, the following hypothesis is proposed:

**H2. The consumer-perceived completeness of TTP services has a positive influence on consumers’ trusting intention.**

In order to further explore the mechanism and influencing factors of TTPs, we first examine a variety of TTPs on the market. It is found that in addition to some TTPs with very high awareness and reputation, there are also some emerging TTPs. Judging from the reputation and brand awareness, there are basically two types of TTPs, namely, high reputation and low reputation. Of course, the companies often adopt different strategies in pricing and charging modes. According to the explanation of the Signalling Theory, enterprises transfer their trustworthy signals to consumers through TTPs, thereby influencing consumers’ trusting intention. Accordingly, TTPs with higher reputation can transfer stronger signals and have a more significant influence on consumers. In summary, this paper proposes the following hypothesis:

**H3. The consumer-perceived reputation of TTP has a positive influence on consumers’ trusting intention.**

Through the exploration of the TTPs used by enterprises and their form of presentation on webpages, the research of Cao and Yan (2014). indicates that TTPs are mainly presented in two forms: abstract logo and concrete description. For example, some enterprises display the certification logo issued by TTPs to demonstrate their qualifications. This form of presentation is mainly used to show various types of security certifications, payment certifications and privacy certifications. By displaying the logos of TTPs visibly on the webpage, enterprises achieve influence on consumers’ trusting intention. Another form of presentation uses the concrete description to explain the corresponding certifications obtained by the enterprises. For example, a description is provided to the service type and the start and end times of the service certification. Enterprises try to explain the role of TTP services to consumers through detailed descriptions and further influence their behavioural intention. By concrete information disclosure and service description, enterprises can effectively reinforce the trustworthy signals perceived by consumers, reduce the risk expectation and enhance the level of consumer trust. Therefore, this paper proposes that:

**H4. The consumer-perceived presentation type influence on consumers’ trusting intention.**
Future Plan and Experimental Design

In future, the focus will be on validating the proposed research model by relevant data collection in the laboratory environment. This study decides to use the partial least squares structural equation modelling (PLS-SEM) for analysing the collected data, not only because the PLS-SEM has good explanatory power in the case of a small sample size, but also the PLS-SEM is suitable for the building and evaluation of the theoretical model. In order to explore the behaviours of individuals and influencing factors of TTPs, we create $3 \times 3$ treatment groups according to the completeness of TTP services (completeness incompleteness services), reputation of TTP (high or low reputation) and type of TTP presentation (abstract and concrete) to test the research hypotheses. We design an online shopping webpage with a professional appearance to simulate the real online shopping environment. With the design control approach of the experiment, the control is established for specific extraneous variables (e.g. personal attitude, online reviews) that can influence consumers' behavioural intentions and the variables to be tested in this experiment (completeness, reputation and type of presentation) are operated to obtain a high internal validity and reduce the influence and interference of extraneous variables on the experimental results.

Expected Contributions

With the constant growth of online transaction and the continuous transformation of small and medium-sized enterprises towards e-commerce, a lot of research results emerge on the influence and role of TTP from both academia and industry. Based on previous studies, this study expects to further enrich the theory of TTP and provide the reliable opinions for enterprises in the process of building trust with consumers. On the one hand, this study extends the traditional TTP service functions, thus not only providing more comprehensive guidance for enterprises in the process of selecting TTPs, but also providing a more complete perspective for our understanding of the influence of TTPs on consumers' trusting intentions. On the other hand, this study explains the two factors of TTP reputation and presentation and achieves the evaluation of the effective role of TTPs. This both demonstrates the regulating effects of relevant factors on the functions of TTPs and explain why the TTPs may be ineffective in some cases. This provides the theoretical support and business guidance for us to understand the mechanism of TTPs and for enterprises to correctly choose among TTPs.

REFERENCES