Analysis of the Relationship between Online Consumer Behavior and E-commerce Service Quality Based on Similar Trust Degree

Shigao Feng

Xijing University, Xi 'an, 710123, China

Abstract: With the advent of the era of network and service economy, consumers' consumption on the Internet no longer stays at the level of pursuing good quality and low price, but pays more and more attention to the quality of service, and the importance of quality of service to e-commerce is gradually recognized. The basic strategy of trust negotiation mechanism based on similar trust degree in e-commerce is to assign a trust value to each node in initialization, which is the minimum value that a node can trade. Consumer behavior is a systematic project. It is a changing process closely related to production, distribution, exchange, circulation and so on. It is also an activity for consumers to search, select, purchase and use for the necessary consumption materials and services, analyze the changing patterns of consumers' e-commerce, and then study the trends of consumers' innovation-based behavior changes through innovations at different levels of e-commerce. Therefore, it is sought to improve the background of the e-commerce environment and effectively promote the healthy consumption of consumers.

1. Introduction

Internet is a new type of two-way communication media. Consumers'online behavior is not controlled by Internet service providers, but determined by their motivation [1]. The function of the Internet as a business platform is growing at an unpredictable rate. Experts generally believe that the global electronic market has greatly affected the business activities of the 20th century, and the 21st century is an era in which the market further reaches prosperity [2]. At present, the number of Internet-based e-commerce platforms in China is growing at an unpredictable rate. On the one hand, this Chinese enterprise has brought new development space, but on the other hand, with the continuous increase of China's e-commerce enterprises, the pressure of competition among enterprises has gradually increased. The massive and dynamic user generated content makes real-time processing of multi-source fusion model difficult [3]. The similarity of consumers' trust comes from the influence of "acquaintances" recommendation, social relationship intensity, recommender characteristics and other factors. The multi-source of similar trust brings difficulties in integration. Imperfections in the trust mechanism. Compared with the actual transaction shopping model, the dynamic, virtual, anonymity of the Internet, etc., make consumers have more uncertainty. The discussion on the dynamic mechanism of e-commerce consumers in China is still the grasp of the changes in the international business environment of consumer behavior, and even the behavioral change and consumer structure optimization of consumer product information under international Internet conditions. Important value and significance [4].

E-commerce is a kind of business innovation based on the Internet. For consumers, it has many advantages, such as variety, low price, convenient purchase and so on. With the involvement of consumers in the process of service provision, service quality must be defined or measured and controlled from the perspective of consumers'perception and perception [5]. In addition, online buyers often sit alone in front of the computer to browse the web pages, most of the purchase decisions are made by themselves, less affected by the outside world, and the decision-making process has certain limitations. Therefore, the purchase decision of online consumers is often much faster than that of physical stores [6]. Market demand is increasingly uncertain. In the modern business war, it is very convenient to collect consumer information and carry out various analysis by using the Internet and related database technology and data analysis technology, so as to serve

decision-making. Different theories aim at different network applications. In the development network environment, the traditional centralized trust mechanism is no longer applicable to e-commerce, so a new trust mechanism is needed to reduce the transaction risk of users and enhance their reliability without affecting their flexibility and anonymity advantages [7]. When modern society produces communicative behaviors in life, transactions, etc., it is inevitable that interaction will affect behavioral change. Therefore, it is necessary to study the interaction of relational networks in optimizing the needs of the consumer environment. Massive user-generated content contains a large number of product reviews, consumer experiences and emotions, with significant informational social impact, making consumer behavior more visible in social business. The service is determined according to the expectations of consumers. Therefore, while strengthening the quality of service, e-commerce companies must further understand the relationship between consumer behavior and e-commerce services [8].

2. Materials and Methods

According to the buyer's evaluation of the seller's various dimensions (e.g., transaction amount, commodity quality, logistics speed, service attitude, etc.) to measure the credibility of the seller under the Internet platform. A large part of the stimulating factors are beyond the control of businessmen. Statistical analysis of uncontrollable factors such as personal characteristics and environmental characteristics can be carried out, which is conducive to market segmentation. The main part that businessmen can control to meet different consumer needs is various marketing incentives. Internet consumers generally have a keen sense of purchase, which can guide the consumption trend. However, due to the risks of online shopping, online consumers usually sleep to collect information about the target commodities in actual purchases. The traditional trust transfer and fusion model regards the subject in the network as a homogeneous node. It does not consider the subject's attributes, behavioral factors and heterogeneity, and cannot reflect the subjective behavior of consumers. It is difficult to apply to the socialized business background. Usually, it affects the external cause of awareness activities. For example, the e-commerce product promotion behavior, e-commerce product description behavior, these will constitute an external cause of consumer purchasing awareness. And consciousness occurs naturally because of the demand, that is, consumers subjectively generate demand. Recommended nodes have different levels of trust, and these recommended nodes are subject to different degrees of trade-off. If the recommendation node is less than 50 percent trustworthy, then it cannot be trusted.

Attitudes refer to consumers'persistent evaluation, feelings and tendencies towards certain individuals or concepts. Consumer attitudes refer to the tendency of consumers'psychological reaction to goods or services in the process of purchasing. After-sales rights and interests of online consumers include not only after-sales, but also pre-sales and in-sales. It is a whole-process process, including pre-service quality, information comprehensiveness, transparency and controllability in shopping, and after-sales service after shopping. Image also has a great impact on consumers'behavior. Online consumers prefer to buy brand-name products of traditional enterprises. In the view of consumers, enterprises with good corporate image are bound to have better product quality and after-sales service system, which is also the biggest obstacle to online shopping. Adding time factor to the direct trust calculation process can limit the increase of the direct trust value of the swing node, and then prevent its trust value from rising too high. For trading users, the most important concern is whether the current transaction is trustworthy. So of course, the most recent transaction from the current trading time should be the most valuable reference. When consumers do not have internal consumer demand, even if external factors can play a strong role in stimulating, it is difficult to form an impact on consumers' non-demand. However, it is undeniable that external factors will have an impact when consumers choose to buy.

Consumer behavior is one of the most universal activities in human social life. As a conscious activity, consumer behavior is determined by both internal and external market factors of consumers, and is also constrained by the external social and ecological environment. As far as service quality is concerned, the actual experience can still be recognized. Although the relationship orientation of

quality determining satisfaction has been well accepted, the influencing factors of customer satisfaction are not only affected by service quality and product quality, but also by price, expectation and situation. E-commerce service quality parameters are shown in Table 1 and Figure 1. The similarity trust is divided into several different levels. The ambiguity is described by introducing the membership function, and the membership function is used to quantify the indicators for various indicators to minimize the subjectivity of people. Incorporating qualitative influence factors into quantitative, it is difficult to measure and integrate qualitative factors, and it is a key problem that restricts the trust transfer model in the context of socialized business. Since the indirect trust of a node is mainly calculated based on the evaluation of the node's trading node, whether the evaluation of the trading node is credible will directly affect the accuracy of the trust value. So the calculation of similar trust is the focus of the trust mechanism.

Table 1 E-commerce service quality parameters

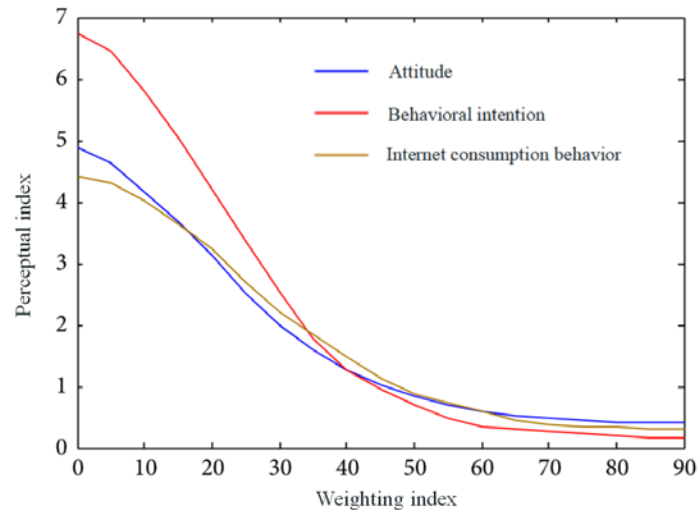|	Weight	Perception
Attitude	11.30±0.32	9.72±1.53
Behavioral intention	12.50±0.38	10.31±0.72
Internet consumption behavior	10.20±0.15	9.51±1.08

Fig.1. E-commerce service quality parameters

3. Result Analysis and Discussion

Similar trust is the degree of trust obtained by synthesizing the evaluation of a node's trading behavior. Choosing evaluation criteria, intention and so on, under the interaction of motivation, purchase plan and intermediary factors, will produce certain tendencies and attitudes. This tendency or attitude, when combined with other factors, such as the restrictive factors of buying behavior, produces purchase results. Improving customer brand value depends on successful integrated marketing communication strategies. With such convenient access to Internet consumer information, consumers can fully use tools to select suitable e-commerce consumption. Therefore, innovative operation methods will be the key to e-commerce's core competitiveness. Identify a reasonable mix of communication strategies to effectively communicate information to existing and potential customers. From the perspective of consumption system, we can understand the impact of consumer behavior change on e-commerce development and the impact of e-commerce on consumer behavior from the process, tense and dynamics, in order to correctly grasp the interaction between e-commerce market and consumer behavior. Better promote their healthy development in interaction.

After optimization, the multi-path trust value transfer only exists in the case of independent

parallel multi-path recommendation trust value as shown in Figure 2. Converting complex overlapping multipath trust values into independent parallel multipath trust value calculations will greatly reduce time complexity.
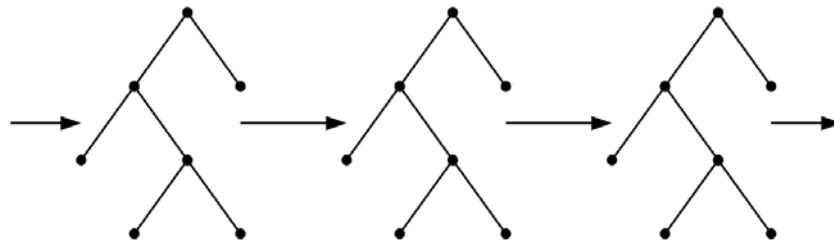

Fig.2. Independent parallel multipath recommendation trust

The innovative development of e-commerce aims at satisfying consumers'shopping needs. In order to achieve this goal more effectively, e-commerce mostly seeks the commonness of consumers'choice of consumption on the basis of eliminating individual differences of consumers. With the convenience and large capacity of the Internet, a multi-layer network of internal and external personnel is constructed, resulting in a wide range of effective links between enterprises and the outside world, forming an economic network connection. Market efficiency of e-commerce has become an important source of online consumer surplus, which directly promotes the change of consumer behavior. Information feedback, after the consumer purchases the product, after the use process, the actual experience of the purchased product is generated, the satisfaction degree after the purchase is used, the repurchase behavior is affected, and the manufacturer is also satisfied by the purchase intention and use of the consumer. get feedback on the information. The empirical research conclusions of similar trust degree are related to the complex network structure attributes, and the key influencing factors of similar trust degree are quantified from the perspective of complex network. The multi-source trust fusion method is constructed: the subjective logic method is improved by referring to the idea of multi-attribute decision-making method.

Customers generally have no objection to the service quality that meets the expectation level. At the same time, if customer expectation is well controlled, enterprises can exceed customer expectation according to the specific situation, so that customers can have a sense of pleasure, which can play a multiplier role in improving customer satisfaction. In a trading network, there is no direct trust connection path between two trading nodes (i.e. source node and target node) before direct transaction, but trust transfer path can be generated by transaction with other nodes. When an agent in the network needs to judge whether another agent is trustworthy according to the recommendation of others, trust fusion is used to calculate the trust formed by the agent through the recommendation information from multiple paths. On the basis of the division of network consumer groups, this paper examines the overall completion of this attribute in the service quality of e-commerce websites. For example, e-commerce companies want to make an overall assessment of the completion of the responsiveness attribute in service quality. When the consumer's cognitive problem exists, it will seek information about the problem; the program evaluation, when the consumer collects the required information, can then evaluate each possible solution. The choice, when the consumer evaluates the various possible options, will choose a solution that best solves the original problem and take the purchase action. Especially when a node has not traded with the other party, there is no direct trust, and its final trust value depends on the indirect trust value. At this time, it can only rely on other nodes' evaluation of the other party to judge the credibility of the other party.

4. Conclusion

This paper studies the relationship between online consumer behavior and e-commerce service quality based on similarity trust. "Perceived Usefulness of Online Shopping" emphasizes consumers'shopping experience in the shopping process and the results of achieving shopping goals.

The reliability of the system is an important factor in evaluating the overall service quality of shopping websites. Ensuring the stability and speed of website system operation is a problem that e-commerce website operators must pay attention to. Internet consumers'perception of e-commerce service quality may not directly affect their behavior intention, but it can affect their behavior intention through the intermediary variable of consumption attitude. The similarity with the buyer is calculated, and then the recommender whose similarity is higher than a certain threshold is added to the trusted recommender list. User nodes in the similarity trust of the trusted recommender list are used to calculate the seller's private trust and public trust. According to consumer behavior, personality characteristics and social interaction practices, collect market information, select consumption varieties and quality, make purchasing decisions and actions, so that consumers meet the needs of consumers. Therefore, the trust transfer and fusion model that can integrate consumer subjective factors and social network structure attributes is an important research direction of socialized business trust management.

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