Research of the Relevance between the Product Quality and the Customer Loyalty under the B2C Mode

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ABSTRACT
This paper constructs a new two-dimensional quality analysis framework of the Internet virtual environment quality perception and customer loyalty, and the nonlinear quantitative relevance between product quality and customer loyalty of the system is deducted also. In addition, the enterprise, the consumer, the government and the third party electronic business product quality information service platform is studied respectively from different vision, and this paper discuss the positive role played by the products quality supervision system for the construction of the Internet business, four forces model is constructed on the basis of Chinese electronic business industry product quality supervision system.

INTRODUCTION
Under the Internet virtual environment, because of the consumers cannot directly identify the goods quality attributes, the pros and cons of network goods quality effective impact on the network consumption potential, boost domestic demand and promote economic growth. Product quality and commodity information quality are the important influences factors of Internet consumer decision-making intention, it can significant improve the customer relationship quality and the customer loyalty.

Lee subdivided the customers perceived values when he exploring the factors of the satisfaction affecting to customers, that is the social psychological value, the economic value and the product value. The research results indicate that the product value (quality) has a significant impact on the Internet customer satisfaction, that is the higher the customer perceived quality relative to the expected one before buying, the higher the perceived satisfaction index is the consumption after the purchase process and purchase experience (Cronin, 2000).

Today, interpersonal communication is not for the commercial marketing. The brand, the products, the services, and the manufacturer's information or the opinions is considered more reliable by oral communication, it plays a vital role impact on the consumer attitudes and behaviors, the consumers will evaluate the weight of the service provider through the consumption experience of others.
2D QUALITY ANALYSIS FOR EB PLATFORM UNDER THE B2C MODE

Noriaki Kano constructed a 2D quality analysis model with the satisfaction status and satisfaction degree under the Herzberg’s inspire of the behavioral science of the two-factor theory, and introduced the satisfy standard in the quality management domain. The new analysis framework of the two-dimensional quality is constructed accordingly to the Internet virtual environment for goods quality perception and customer loyalty of new (see figure 1), in order to explore the influence mechanism of the customer loyalty and the nonlinear relationship under the different quality level, and then expands and improves KANO model and the theory of attractive quality at the theoretical level. At the same time, this study also attempts to introduce economics elastic theory, qualitative analysis and defines the quality of the Internet customer loyalty elastic system $E_{Q}^{CL}$:

$$E_{Q}^{CL} = \frac{\Delta CL}{\Delta Q} \cdot \frac{Q}{CL} = \frac{dCL}{dQ} \cdot \frac{Q}{CL}$$

(1)

![Figure 1. The model of 2D quality analysis for EB platform under B2C mode.](image)

The Charm of the Internet Customer Loyalty Quality Elastic Analysis

As show in region I in figure 1, the steeper the attractive quality curve is, the greater the Internet customer loyalty on the quality of elastic coefficient is. In regional II the attractive quality curve is flat and it shows that the elasticity coefficient of the Internet customer loyalty to the quality is smaller, and the Internet customer loyalty is inelastic to charm quality, namely Internet customer loyalty on the EB platform commodity quality is poor in the sensitive.

The One Dimensional Quality Elastic Analysis under the Internet Customer Loyalty

As shown in the region I and III in figure 1, the one-dimensional quality curve is linearly distributed, namely the Internet customer loyalty and the quality of one dimensional change rate happens to be equal, so the Internet customer loyalty elasticity quality is the unit elasticity.
The Necessary Quality Elastic Analysis of the Internet Customer Loyalty

In the region III in figure 1, the steeper the curve of the necessary quality, showed the Internet customer loyalty to the quality of the elastic coefficient, the greater the Internet customer loyalty is sensitive to the subtle changes in the quality, namely EB platform essential commodity quality has significant correlation with the Internet customer loyalty. In region IV, the quality curve will tend to flat, that means the Internet customer loyalty to the necessary quality is inelastic.

The Difference Quality Elastic Analysis of the Internet Customer Loyalty

In the region I and II in figure 1, due to the quality of indifference curve is shown as a horizontal line in the geometry, whether goods quality meet, there is no any influence on the Internet customer loyalty, and then the Internet customer elasticity is perfectly elastic.

The Reverse Quality Elastic Analysis of the Internet Customer Loyalty

In region II and IV in figure 1, the reverse quality curve is a linear distribution, but the EB enterprises should pay special attention to the Internet customer loyalty and commodity quality satisfaction degree has significant negative correlation at this time. That is the higher satisfaction, lower internet customer loyalty.

IMPLEMENTATION STRATEGY OF CHINA'S ELECTRONIC COMMERCE INDUSTRY QUALITY SUPERVISION SYSTEM

The business enterprise, Internet consumers, governments, and the third party electronic product quality information service platform is studied respectively in this paper, and the positive role the quality played on the supervision system which construct China's electronic industry is discussed, and the four forces model based on B2C mode under Web2.0 era for Chinese electronic industry product quality supervision system is constructed. It is shown in figure 2. The analysis is described as below:

![Figure 2. Four forces model of Chinese electronic industry product quality supervision system.](image-url)
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Step 1, establish and complete the EB platform for product quality monitoring and evaluation system. Jarvenpaa (1999) and other scholar's relevant research results also further illustrate the consumer perception about the network business scale. That is the greater the merchants is, the more will pay on the dishonest behavior cost, thus the more can fulfill the commitment to quality. Second, to form the standard on the platform of EB commodity information release quality, to coordinate the network recommendation and online evaluation management mechanism. The electronic enterprises, meanwhile, should pay special attention on the network commodity information recommended and the relationship between online evaluation and mechanism, and lay the foundation for the marketing of the EB platform smoothly. Third, the excellent product quality excites the network consumption. Reference to the general model of sales, it can be further evidenced in the case of goods itself, the quality level show significant correlation with electronic enterprise sales (as shown in figure 3) while the price remains the same.

![Figure 3. Curve of price and sales.](image)

The Advice to Internet Consumers

The first of the advices to Internet consumer is the consciousness strengthening of the network consumer rights protection. When the consumers encounter undesirable businessman quality fraud, they should firmly recall the consciousness, and actively take legal ways to protect their legitimate rights and interests. The second is the objective evaluation of the network consumption experience. According to iResearch survey statistical data analysis from the market consultant on the limited company, about 62% of potential online consumers will ask their net friend before make the decision, and have already become one of the most influential sources of information of the consumer behavior. (Park, 2009). So, the consumer should make the objective evaluation on the quality of its goods and services to provide on EB platform.

The Suggestion to the Government Management

The first suggestion to the government management is to develop the Internet virtual environment quality supervision measures. At present, the legal regulatory Internet consumption market environment has not yet set up in China, government regulators are the macro regulators and should fully play the functions, actively explore
the product quality supervision mode in practice for the Internet virtual environment electronic business enterprise. The second suggestion is to establish responsibility back chain. In view of the present Internet consumers in the process of network, the consumers cannot fully get the real and effective information when they have quality complaints. The third suggestion is to establish the green channel for Internet consumer advocate.

**Suggestion of Set Up the Third Party Product Quality Information Service Platform**

There are many functions of action with the quality information service platform. First of all, the supervision system is one the recommendations to the government functional departments. The second is to actively build the network consumption quality integrity database. As a third party nonprofit electronic product quality information service platform, it should be fully reveal its authority and the fair. In addition, Caswell further related research results show that the quality will help to convert the trust attributes to search properties.[6] The third is the deep fusion system with EB enterprises, perfect the quality control. The third party electronic product quality information service platform should be deeply integrated with EB enterprise.

**CONCLUSIONS**

This paper studied the 2D quality analysis of EB platform architecture in B2C mode. As the results, EB enterprise should pay close attention on the charm quality curve part in regional I and necessary quality curve part in regional III, especially the attractive quality elements of EB enterprises has the important influence on the implement of the strategy for customer lock. In addition, the four forces model in China's electronic industry product quality supervision system is described. The government should take the important leading and driving role in promoting electronic industry product quality supervision system in China. The third-party electronic product quality information service platform should also constantly enhance their strength, make deep fusion with EB enterprises, and complete the quality control system, to build the quality system for the government functional departments to make supervision.

**REFERENCES**