Application Analysis of Computer Technology in E-Commerce Network Consumption Interaction

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Abstract. As companies pay more attention to online marketing, e-commerce has emerged, and it has quickly become the fashion consumers want, and more and more consumers have joined the online market. This article aims to study the application and analysis of computer technology in e-commerce network consumption interaction. The premise of this article is to analyze the classification requirements of computer marketing data in the e-commerce sector, and introduce the application of computer technology in e-commerce consumption in detail, and analyze the interactive role of computer technology in e-commerce consumption. This article defines the behavior of online consumers, and puts forward an e-commerce service quality relationship model, cases, and mathematical statistics for application model experiments. The experimental results in this paper show that the correlation coefficients between the six measurement elements of e-commerce service quality and the attitudes of online consumers are all positive. Among them, security and online consumer attitudes are significantly correlated at the p-value of 0.05.

Keywords: E-Commerce; Online Consumption; Computer Technology

1. Introduction

In today's society, with the popularization and application of computer technology, the e-commerce industry has risen and developed rapidly, creating a business model that people are familiar with today [1-2]. With the development of e-commerce, consumption standards have undergone tremendous changes. E-commerce network consumption is gradually replacing traditional consumption standards and becoming one of the main consumption standards in human life [3-4].

Computer technology plays a very important role in the consumer interaction of e-commerce networks. As an important foundation of e-commerce, computer technology has always been an important part of e-commerce. This is very important for the development and progress of e-commerce [5]. Therefore, in order to promote the further development of e-commerce, the application of computer technology in the interaction of e-commerce network consumption has been investigated in detail, and the overall progress of the entire industry can be promoted by understanding the relationship of interaction [6-7].

In recent years, there has been increasing emphasis on big data analysis (BDA) in e-commerce. Akter S provides an explanatory framework that explores the definition, unique characteristics, business value and challenges of BDA in the field of e-commerce [8]. He also sparked extensive discussions about future research challenges and theoretical and practical opportunities [9]. Overall, his research has discovered various BDA concepts, which provide deeper insights for cross-domain analysis applications in e-commerce. But the practicality of this research is not high [10].

The innovation of this article is (1) In-depth discussion of the relationship between the two aspects of computer technology and e-commerce, and a comprehensive analysis of its future development. (2) Analyze the role of computer technology in e-commerce network consumption interaction, and propose specific application methods.

2. Computer Technology in E-Commerce Network Interaction

2.1. Computer Technology in E-Commerce

2.1.1. Data encryption technology

Data encryption technology is an extremely important security measure in e-commerce. Currently, there are two different encryption technologies, namely symmetric encryption and asymmetric encryption. The representative of symmetric encryption technology is symmetric key encryption rather than asymmetric encryption. The representative of encryption technology is public key encryption. Today, a large number of e-commerce companies have used PKI technology to create high-quality encryption systems, which can well protect data security issues involved in e-commerce operations.

2.1.2. Digital signature technology

With the rapid development of e-commerce and computer technology, digital signature technology has become an important means of e-commerce security. In the e-commerce environment, digital signature technology still has some urgent problems to be solved, such as simple forgery, difficult identification, and low authenticity. The current digital signature technology is developed on the basis of public key technology, and can also be regarded as a derivative application of public key technology.

2.1.3. Identification technology

When conducting e-commerce activities, it is also very important to effectively identify both parties to the transaction. At present, the two most common applications of identification technology are access code identification and brand identification. Among them, access code identification is a commonly used identification method, usually called an access code. In the process of choosing their own access code, users often choose easy to remember and hard to tell. This method is implemented using a specific possession, which usually stores personal data that can be recognized by a computer to activate an electronic device.

2.1.4. Illegal intrusion monitoring and virus prevention technology

Intrusion detection technology refers to the technology whose main content is control and detection technology. It is a behavior of network mining and intrusion through the attack traces left by the intruder, and he can well defend against illegal attacks. It is an important tool to ensure computer and network security. It has also been widely used in e-commerce and plays a very important role in the protection of data security in e-commerce.

2.2. Research Methods

This article uses a combination of literature research and empirical analysis. In order to find out the relationship between computer technology and e-commerce network consumption behavior, and build a relationship model between the two, I first read a lot of relevant domestic and foreign literature, then conducted expert interviews, and designed a survey questionnaire based on the literature and expert suggestions. , Use empirical methods to test the model to ensure the standardization, scientificity and rationality of the research. This study mainly adopted the following research methods.

This article adopts the method of combining literature research and empirical analysis. In order to discover the relationship between computer technology and consumer behavior in e-commerce networks and establish a relationship model, I first read many domestic and foreign related books, then conducted expert interviews, and designed a research questionnaire based on literature and expert

suggestions. Use experimental methods to test models to ensure that the research is standardized, scientific, and rational. This research mainly uses the following research methods.

2.2.1. Literature research method

In order to deeply explore the relationship between computer technology and e-commerce network consumption, the author has read a large number of relevant documents both inside and outside. Because foreign research is earlier than domestic research, I read more foreign documents. The research results of predecessors are collected and summarized. These research results constitute the basis for topic selection and the theoretical basis for research analysis, and provide theoretical support for model design and research questionnaire design.

2.2.2. Empirical research method

This study first designed a questionnaire, and carried out mathematical statistical methods such as descriptive statistical analysis, reliability analysis, validity analysis and regression analysis on the results of the questionnaire. Methods as below:

1) Descriptive statistical analysis

First, analyze the quality of the data sample and understand the characteristics of the data sample as a whole. In this study, statistical software was used to calculate the maximum, minimum, average and typical deviations of various variables and measurement indicators. Understand the average value of each dimension of e-commerce service quality, understand its positioning characteristics and market intentions of consumers on the Internet.

2) Reliability analysis

The internal consistency analysis of the survey questionnaire is carried out, the reliability C coefficient is used to measure the consistency of each measurement index and the reliability of each variable and scale is tested.

3) Correlation analysis

Analyze two or more variables to measure the closeness of the correlation between two or more variables. Before performing correlation analysis, related variables or elements should have specific connections or probabilities.

4) Regression analysis

Find out the causal relationship between the indicators, the relationship between the independent variable and the dependent variable, and find the independent variable that has a significant impact on the dependent variable.

3. Construction of E-Commerce Network Consumption Platform

Through reasonable division of the system level, the system is divided into component layer, business layer and application layer. Through these three levels of division to reflect the framework of the system. The component layer provides some necessary elements for the operation of the system. These elements remove some common functions in each operating system, thus forming an independent subsystem. The business layer centrally manages the business machines commonly used in the system, and the application layer directly processes applications and presents the following functional units to users.

In the process of system development, cloud technology will be used for commodity management. Public and private products can be flexibly used and applied. According to their own needs and cloud computing characteristics, they provide a lot of space for the development of their own systems and ensure the security of transactions and information. improve. Therefore, under normal traffic conditions, the system uses its own internal data center to process product inquiries, and find resources for similar products on other websites for comparison according to customer needs. This was impossible before.

The whole system adopts BS architecture, based on the idea of data operation. Everything is central data, and data is analyzed and mined. Each application should be equipped with a data adoption

system. When the user gains access to the application, the data collection system will export the user's browsing information, filter it, and appropriately classify it into the database. Then use analysis and extraction tools to comprehensively analyze the collected data, and promote the analysis results to the problem server as the basis of decision analysis.

4. Computer Technology Analysis in E-Commerce Network Consumption Interaction

4.1. Application of Computer Technology in e-Commerce Network Consumption Interaction

4.1.1. Making virtual goods

Due to the changes and development of the information technology environment, the e-commerce environment has undergone major changes without time and space constraints. E-commerce can use computer technology to express various data on the network, thereby effectively improving its interactivity. E-commerce network interactive consumer network. In addition, e-commerce places great emphasis on consumer opinions. When a consumer makes a certain suggestion for a certain product in e-commerce consumption, the e-commerce company can use the virtual model of the product to make targeted improvements to meet the needs of consumers.

4.1.2. Realize the construction and management of e-commerce website

E-commerce can use computer technology to create and manage e-commerce websites. Similar to the method of computing e-commerce, the development of industry, website system platform, and website technology is the focus of website construction. E-commerce can use computer calculation models to calculate and verify the detailed calculation and verification of the following items. The website information provides the website system platform of the commercial website of the power station.

4.1.3. Improve the efficiency of online consumer interaction

E-commerce can use the Internet server of the website to publish various information about e-commerce products on the Internet, trade and consumer Internet browsing. Consumers can use Internet search tools to quickly find and browse the desired products and corporate information. Companies can use websites and emails to publish major advertisements online. Compared with traditional computer technology to create website platform advertising and promotion on the Internet, advertising costs can be effectively reduced and provide consumers with richer information content. At the same time, you can also discuss and discuss with the consumer group via email.

4.2. Correlation Analysis of E-Commerce and Online Consumption

This paper uses SPSS 14.0 software to analyze the correlation coefficient, and uses the Pearson correlation analysis method to analyze the e-commerce service quality and its six measurement elements. Correlation analysis is made on the measurement elements of e-commerce service quality and the attitudes of online consumers, and the results are shown in Table 1.

Table 1. Correlation between e-commerce service quality measurement elements and online consumer attitudes

Online consumer attitudes	Pearson correlation coefficient	Significance
Ease of use	0.34	0
Reliability	0.3	0.001
Reactivity	0.25	0.008
Safety	0.19	0.04
Customer Care	0.09	0.34
Customer trust	0.24	0.01

In order to observe the correlation of the data more clearly, draw the table into a graph, as shown in Figure 1:

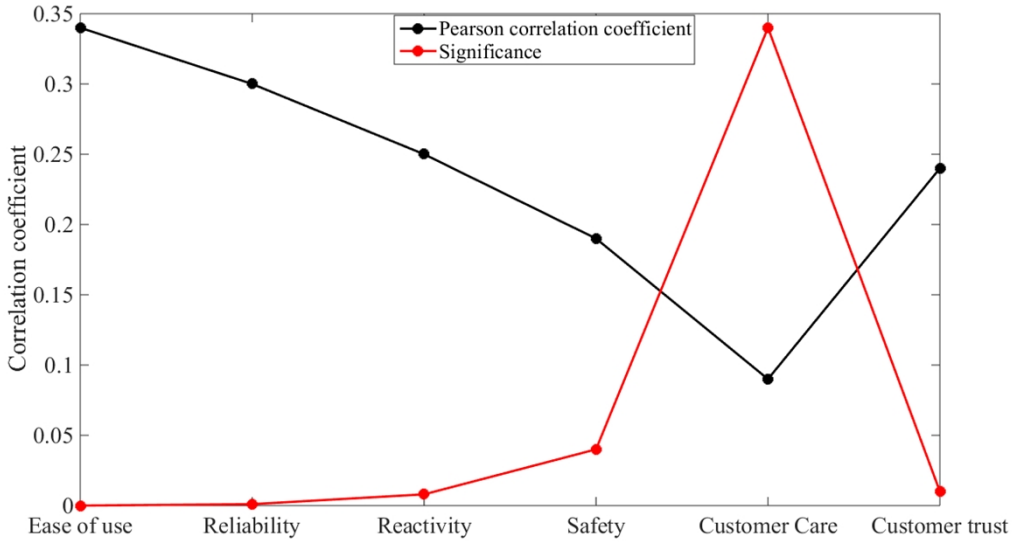

Figure 1. Correlation between e-commerce service quality measurement elements and online consumer attitudes

According to the data in the figure, it can be seen that the correlation coefficients between the six measurement elements of e-commerce service quality and the attitudes of online consumers are all positive, of which the four measurement elements of ease of use, reliability, responsiveness and customer trust are related to the online consumers Attitudes are significantly correlated at the P value of 0.01, security and online consumer attitudes are significantly correlated at the P value of 0.05, while the correlation between customer care and online consumer attitudes is not significant.

5. Conclusions

In short, the development process of e-commerce has a very important connection with the development of computer technology. The emergence of e-commerce has promoted the continuous updating of e-commerce platforms. Through convenient communication technology and continuous security technology innovation, it has also created a strong guarantee for the entire transaction. In addition, the relationship between the two restricts and promotes each other. Only a better understanding of these technologies can effectively promote the development of the industry.

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