Research on the Customer Service Quality Evaluation of Platform-based Online Shopping

Jialong Chen[a], Ying Liu[b], Zhitan Feng[*]

School of Commercial, Nantong Institute of Technology, Nantong, China
[a]1362921511@qq.com, [b]376175101@qq.com
[*]Corresponding author: Fengzhtan@126.com

Abstracts: *The improvement of the customer service quality of the shopping platform is multi-faceted and long-term realization. To improve the user's satisfaction with the platform, accumulate a large number of loyal customers, and enhance the sustainable development of the platform can improve the competitiveness in the fiercely competitive e-commerce platform. Sustainability for the development of the enterprise requires a high degree of attention. Taking Pinduoduo as an example, this paper constructs a customer service quality evaluation index system for platform-based online shopping.*

Keywords: *Customer service quality, Platform-type online shopping, Index system*

1. Introduction

The initial e-commerce of the 1980s represented the use of electronic technology to simplify business activities, such as using electronic money transfer, the exchange of electronic data, and other technologies. The system used and the technology used are electronic. E-commerce in the 1990s also included data mining, data warehousing, and enterprise resource planning. Later, network trade is also classified into e-commerce. Now, e-commerce covers a very wide range of business behavior. In order to cooperate with the development of e-commerce, technology system, background system, Internet and so on have also begun to develop and progress.

Since 2013, our country has become the world's largest online retail market for eight years. So far in 2020, China's cumulative online retail transactions have reached 11.76 trillion yuan, up 10.9%.According to the 2019 data, the sales of physical goods reached 9.76 trillion yuan online, accounting for 24.9% of the total retail sales of social consumer goods. By the end of 2020, there were 782 million online shopping people in China, an increase of 72.15 million compared with March 2020, accounting for 79.1% of all Chinese Internet users.

At the same time of rapid development, platforms emerge in an endless stream, so how to stand out in the case of gradually fierce competition, not to be eliminated, favored by customers, and become the first choice of customers' online shopping? An important influencing factor is the evaluation of service quality by customers on the platform. Pinduoduo, as a successful member of the highly competitive online shopping platforms in recent years, is inseparable from its excellent service quality.

2. Literature review

Liu Xilong (2015) in order to provide decision-making tools and methods for my country's commercial banks to implement e-banking competition strategies, he did a study on the evaluation and improvement methods of e-banking service quality. The main content is to construct an e-banking based on two-factor incentive theory. Service quality evaluation system [1]. Zhao Linlin (2016) based on the existing C2C e-commerce evaluation model, made dynamic evaluation of some related express industry services from the perspective of express objects, namely sellers and buyers, and proposed a dynamic evaluation mechanism based on transaction evolution. Game theory proves and tests the necessity and rationality of the model to carry out demonstration and research [2]. Guo Cheng (2018) The purpose of improving customer satisfaction is to improve the quality of logistics services, thus providing a basis for selecting third-party logistics companies. At the same time, it can improve customer satisfaction with dealers, so that dealers can obtain greater profits. By reviewing studies evaluating the quality of logistics services to improve customer satisfaction, and incorporating real-world consumer considerations, we

aggregated 6 observed dimensions and 23 metrics that measure performance. Quality of logistics service: reliability of service, flexibility of service, speed of delivery, professionalism of service, quality of information, economy of service; 2 customer satisfaction observation tables with 28 measurement indicators, 28 in total Observational Metrics and 3 Observational Metrics for Online Purchase Satisfaction [3]. Liu Xin (2018) The comfort of logistics services can not only affect the overall shopping experience of customers, but also affect customer satisfaction to a certain extent. Moreover, at present, there is still a lack of systematic research on logistics service comfort, and there is a lack of in-depth research on its composition dimensions and the relationship between variables such as customer satisfaction [4]. Wang Wenting (2018), through the verification of the model, concluded that the C2C online service platform reduces the time cost of customers by vigorously developing a personalized recommendation system to improve the quality of service experience to ensure its own development interests and existence value. At the same time, according to the influence of the time cost factor of service experience quality on the profit of C2C online service platform, it is predicted that the C2C online service platform will take social services as the key development direction [5]. The evaluation system established by Luo Yanbing (2018) evaluated the logistics service quality of representative C2C websites in China, and concluded that: (1) In my country's C2C logistics enterprises, the issues in the value dimension are more important, reliability and reliability are more important. Convenience has not yet found an obvious influencing factor; (2) my country's C2C logistics enterprises have problems of low service quality in terms of information conformity and empathy. Finally, the corresponding improvement suggestions are put forward to provide directions for C2C logistics service enterprises to solve problems [6]. Chen Fang (2018) took customer satisfaction as the starting point, and conducted a sampling analysis survey on the customers of e-commerce platform companies. From the survey results, we can see the weak links of e-commerce companies and the areas that need to be improved. The initial logistics service quality the evaluation system model is adjusted and accurately verified, and each dimension and index is given a certain weight by regression analysis [7].

Yang Shijuan (2018) believes that improving the services of B2C e-commerce commodity logistics, reducing return costs and retaining old customers have become key issues that e-commerce companies must solve in order to achieve sustainable competitiveness in the online environment [8]. Cui Jianfeng (2019) established a framework of "online promotion-perceived risk-impulse purchase intention" for research, taking perceived risk as a mediating variable, and introducing the type of e-commerce and perceived express service quality as moderator variables. Based on this research, a series of relevant research hypotheses are put forward, and the research framework and hypotheses are verified through the experimental research method of psychology [9] Cheng Lulu. (2019) believe that the overall development of my country's logistics service quality is relatively slow, the level of logistics service quality shows a step-like increasing trend from the west to the east, and the regional logistics service quality is positively correlated with the level of economic development. The weights of tangible indicators and reliability indicators are relatively large, and the indicators of these two dimensions have a greater impact on the quality of logistics services, while the responsive indicators have relatively little impact on the quality of logistics services. Finally, it qualitatively analyzes the relationship between e-commerce and logistics service quality, builds a regression model of the impact of e-commerce on logistics service quality, and uses Eviews8.0 to calculate the data. The results show that the development of e-commerce will affect logistics. The service quality has a significant impact, and the per capita e-commerce transaction number and per capita e-commerce transaction volume in the e-commerce indicators are the most significant [10]. Yu Wenxiang (2019) proposed an evaluation method related to logistics service quality, and also used word frequency statistics and word2vec method to create a thesaurus of logistics keywords and sentiment words. This paper proposes a distance model that matches logistics keywords and emotional words, and conducts an empirical analysis and research on related feedbacks such as JD's logistics service quality. on the matching frequency, and analyze the experimental results. It can be seen that the areas that consumers pay the most attention to, the favorable rate of each area is compared, and appropriate suggestions and improvement measures are put forward for each area. It then conducts a detailed analysis of the areas with the lowest favorable ratings, and provides relatively detailed comments and suggestions [11]. Men Zehui (2020) believes that the relevant laws and policies in my country are not perfect at present, especially the tax management of C2C e-commerce still has many loopholes [12]. Shen Jie (2020) proposed a new theoretical framework for analyzing the end-to-end delay distribution from the frequency domain. The distribution is actually the inverse Laplace transform of the signal flow graph transfer function [13]. Tao Zheyuan (2020) took the optical glasses reviews of JD.com as the research object, designed a crawler program to extract 11,384 online reviews of the 20 highest-selling optical glasses in JD.com, selected features through the TFIDF algorithm, and analyzed the top 200 keywords with large feature values. Extracted, conceptualized and generalized keywords, and preliminarily analyzed the influencing factors that affect users' satisfaction with online

shopping glasses [14]. Xu Xiao (2020) concluded that Pinduoduo's current profit model has problems such as a single source of profit, the need to strengthen profit barriers, lack of control over product quality, poor service quality, and high marketing costs, and put forward some suggestions for targeted optimization. It can help Pinduoduo improve its profit model and promote the long-term development of the enterprise [15].

Starting from 1996, the e-commerce platform began to undergo a series of qualitative changes and gradually became a worldwide economic phenomenon. It can be seen from the whole world that most of the successful applications of e-commerce are in the United States and Europe. Obviously like developed countries. In terms of e-commerce-related infrastructure, South Korea is recognized as the best, and e-commerce in South Korea continues to grow rapidly. Many foreign e-commerce platforms have gradually realized the importance of service quality, and then many experts and scholars have studied and discussed service quality from different perspectives, and have drawn some important research conclusions.

Scholars Poletan Jugović, Tanja, Gumzej, Roman, Čišić, Dragan (2019) proposed a service quality proxy model. The model is designed using the mcdm tool to accommodate different supply chain management approaches. As a result, the quality of service throughout the supply chain is constantly improving as each node of the supply chain is constantly making more informed purchasing decisions autonomously. Finally, the article conducts an empirical evaluation of the service quality evaluation model for supply chains [16]. Scholars Ahmad Samed Al-Adwan, Maher Ahmad Al-Horani (2019) aim to fill this gap, providing empirical tests and an extended etiq scale for conceptually derived measurement model specifications. In addition, the study explored the potential impact of extended scales on e-trust, e-satisfaction, and subsequently e-loyalty. This paper focuses on the practical and theoretical implications of e-commerce to help companies design effective quality-based business strategies to improve customer loyalty and guide future research in the field of e-commerce [17]. Research by scholars Frederic Marimon, Josep Llach, Mar Alonso-Almeida, Marta Mas-Machuca (2019) provides a useful measure to assess the perceived quality of services regardless of activity sector. This tool can help managers with assessments and benchmarking. The instrument also provides customers with independent and reliable information [18]. Foreign scholars Sanjay Dhingra, Shelly Gupta, Ruchi Bhatt believe that the research has determined that the dimensions of electronic service quality include website design, trust, reliability, responsiveness, personalization and responsiveness on the basis of literature review. To test this model, 278 avid users of 3 popular websites were surveyed. Measurement models were used to test the reliability and validity of the questionnaire, and structural equation models were used to determine the relationship between dimensions. The results show that trust is the only electronic service quality dimension that significantly affects the overall service quality. The relationship between the overall electronic service quality and customer satisfaction, customer satisfaction and purchase intention is statistically significant [19]. Hoda Ghavamipoor, S. Alireza Hashemi Golpayegani propose a reinforcement learning based adaptive e-commerce system model that adapts to different service quality levels in different web sessions navigated by customers to maximize total profit. An e-commerce system is viewed as an electronic supply chain, which includes a basic network of electronic suppliers that provide e-commerce services to end customers. The learning agent, acting as an e-commerce supply chain management agent, assigns a service quality level to the customer's request according to its navigation pattern in the e-commerce website, and selects an optimal combination of service providers to respond to the customer's request. To evaluate the model, a multi-agent framework consisting of three types of brokers, client brokers (buyer/browser) and service provider brokers is employed. The results of the experiment show that the model can improve the total profit by reducing the cost and increasing the profit, and encourage users to buy from the website through the adjustment of service quality [20].

3. Development status and related theories of platform online shopping

3.1. Platform online shopping

Platform online shopping is one of the forms of e-commerce. Consumers use the goods or services they need directly on the online shopping platform through the Internet. The advantages of platform online shopping are:

(1) There is no time and place limit: open 24 hours a day, under the Internet situation, you can choose on the platform anytime and anywhere, shopping, eliminating the physical strength, space and transportation restrictions.

(2) Low shopping cost: consumers directly choose in the store, easy to compare, to avoid the cost of

intermediate transportation.

(3) Easy to find goods: platform online shopping has search box and other services, convenient to find the goods you want.

(4) Complete range of types: no physical store space restrictions, inventory pressure. Thousands of various types of products can be found on the platform.

There are mainly the following problems:

(1) Due to the uncertainty of the seller's identity, once the transaction is wrong, it can not directly find the address to deal with the problem like a physical store, and cannot be directly held accountable in the network environment.

(2) Consumers can get limited information: consumers can only understand the goods through the information provided by sellers like pictures, and the information understanding of the actual goods is not comprehensive.

(3) Insufficient laws: laws on e-commerce and online shopping are not mature, and there may be unsolved disputes.

(4) The return and exchange process is complicated: if consumers encounter commodity quality problems after receiving the goods, the return and exchange will require the consent of the seller and send them back independently. Only after the seller receives the goods, they will refund, and the intermediate process is complicated.

(5) Privacy security issues: requiring online payment on online shopping platforms is likely to involve payment security issues, as well as the personal information of filling in the harvest address will be leaked, thus threatening the privacy and security of consumers and bringing unnecessary hidden dangers.

3.2. Customer Service

It is a way for merchants to provide consumers before and after shopping, which can be provided by people or provided by technology. The degree of focus will vary according to the product type and customer group. It not only refers to the service to existing customers, but also to potential customers, which should not only improve customer satisfaction with the platform functions, but also improve customer satisfaction with the platform services.

3.3. Service quality evaluation

Service quality evaluation an objective evaluation process of using conforming methods and tools to measure the degree of service quality.

Service Quality stands for SERVQUAL, an American article titled "SERVQUAL: A Multivariable Customer-perceived Quality of Service Measure," is where the word SERVQUAL first appeared. The article was written by three marketers, Berry, Zeithaml, A. Parasuraman co-wrote by Parasuraman. A new Total Quality Management (TQM) theory and applicable service quality evaluation system is proposed as the basis of Service Quality. For quality service is the prerequisite of user expectations, the key to provide quality service is to exceed the initial expectations, this is the core of the theory "service quality gap model", also shows the end user perceived service level and the initial user expected service level plays a decisive role in the difference of service quality. Also known as (expectation-perception model), this model is: actual feeling score-initial expectation score =SERVQUAL score.

4. Build a customer service quality evaluation index system

4.1. Principle of selection of Pinduoduo customer service quality evaluation indicators

4.1.1. Representative is consistent with comprehensiveness

The purpose of the evaluation should be scientific, the content and method must be determined on the true level of service quality on the basis of thorough understanding and systematic research to objectively reflect, and the relationship with the specific implementation process must be easy to use, simple, clear, reliable understanding and simple.

4.1.2. Hierarchy and system consistency

Quality of service contains elements of different levels and types, including personnel, organizations, individual behaviors, interrelationships, etc. Assessment of service quality must be systematically analyzed and validated at different levels. The level can be subdivided according to the structure of the system, to make the structure of the scoring system clear and easy to use, and can effectively achieve consistency about the system and the level.

4.1.3. Consistent with the practical and scientific nature

The quality characteristics of the service are different. In order to objectively and effectively evaluate the service quality of service companies, they usually evaluate the components exhaustively and follow the principle of integrity. In the actual operation process, due to the objective difference between service supply and demand, it is necessary to evaluate the representative or typical service quality, and maintain the integrity and representativeness, timely and consistently reflect the quality of local services.

4.1.4. Static and dynamic conditions are consistent

Quality of service is not only an object, but also a process. Therefore, the quality of service as a feature of a dynamic variable must maintain its relative stability to ensure dynamic and static consistency.

4.2. Establishment and analysis of the customer service quality evaluation index system

Comprehensive principle of building system to establish a new suitable for spelling platform of customer service quality evaluation index system, the index system is: "product information description", "platform" "payment and settlement service", "information protection service", "logistics service", "after-sales security service", "comprehensive". The second level index is the clear matter of the first level index, which is the progressive explanation of the first level index.

Table 1: Common indicators of customer service quality evaluation research of platform online shopping

Level 1 indicators	Secondary indicators
Product information description	Need understanding
	The reasonableness of the price of the goods
	There is a complete variety of goods
	Can it meet the needs of shopping
	Quality level of goods on the platform
Platform operability	Commodity photos match the physical object
	Page load speed
	The shopping operation process is simple and fast
	Typography classification is clearly clear
Payment and settlement services	Support for a variety of payment methods
	Transaction safety
Information protection services	Privacy protection for customers
Logistics distribution service	Quality of goods distribution
	Delivery speed of goods
After-sales guarantee service	Can the use effect meet the expectations
	Quality level of goods on the platform
	Platform after-sales service
	Customer service staff ability to deal with problems with speed and results
	Service attitude of the customer service staff

(1) Product information description: refers to the comprehensiveness of product information description when users select products on platform, including but not limited to the comprehensiveness of basic information about the product, the comprehensiveness of product quality information, product authenticity and the timeliness of information.

(2) Platform operability: refers to users' simple product selection operation, smooth platform page, convenient product selection, convenient order operation process and convenient return, etc.

(3) Payment and settlement service: refers to whether the user meets the convenient settlement after selecting products on platform: the payment process is simple, it provides a variety of payment methods, whether the payment is safe, whether there are security measures against transaction fraud, providing receipts or invoices, etc.

(4) Information protection service: whether to encrypt customer privacy information, etc.

(5) Logistics distribution service: refers to whether the user's express delivery service is reliable after product selection on platform, and whether it is completed on time according to the promised time. Whether the products delivered are intact and not damaged, and whether it is consistent with the products purchased.

(6) After-sales guarantee service: the problem is whether once users receive the goods on the platform, they can effectively guarantee the customer service, whether the service personnel can effectively solve the after-sales service problems, and whether they have a friendly attitude to deal with the problem.

(7) Comprehensive: the overall perception of shopping on platform.

5. Conclusion

E-commerce is developing rapidly under the Internet, and the overall trend of online shopping of e-commerce users is on the rise. While the rapid development of e-commerce in our country, various e-commerce shopping platforms are also coming one after another. So how to stand out in the face of the gradually fierce competition, be favored by customers, and become the first choice of customers' online shopping? The important influencing factor is the evaluation of service quality, and service quality has become an important influencing factor for platform merchants to improve their core competitiveness, this paper constructs a customer service quality evaluation index system of platform online shopping. The index system is: "product information description", "platform" "payment and settlement service", "information protection service", "logistics service", "after-sales security service", "comprehensive". The second level index is the clear matter of the first level index, which is the progressive explanation of the first level index.

Acknowledgements

References

[1] Liu Xilong. Research on E-banking Service Quality Evaluation and Improvement Model [D]. Shanghai University, 2015.
[2] Zhao Linlin. Research on the evaluation mechanism of C2C e-commerce express companies based on evolutionary game [D]. Yanshan University, 2016.
[3] Guo Cheng. Evaluation of the impact of C2C logistics service quality on online shopping satisfaction [D]. Anhui University of Science and Technology, 2018.
[4] Liu Xin. Research on the influence of B2C online shopping logistics service comfort on customer satisfaction [D]. Dalian Jiaotong University, 2018.
[5] Wang Wenting. Research on service experience quality and model of C2C online service platform under three-party game [D]. Southeast University, 2018.
[6] Luo Yanbing. Research on the quality evaluation of C2C e-commerce logistics service from the perspective of experience [D]. Tianjin University of Technology, 2018.
[7] Chen Fang. Research on B2C E-commerce Logistics Service Quality Evaluation from the Perspective of Customer Satisfaction [D]. North China University of Water Resources and Electric Power, 2018.
[8] Yang Shijuan. Research on the influence of B2C e-commerce return logistics service quality on customer loyalty [D]. Guangxi Normal University, 2018.
[9] Cui Jianfeng. Research on the influence of online promotion methods on consumers' perceived risk and impulse purchase intention [D]. Jilin University, 2019.
[10] Cheng Lulu. Research on the mutual influence of e-commerce and logistics service quality [D]. Jiangxi University of Finance and Economics, 2019.
[11] Yu Wenxiang. Research on logistics service quality evaluation based on online shopping reviews [D]. Chongqing Jiaotong University, 2019.
[12] Men Zehui. Research on the legal regulation of C2C e-commerce taxation in my country [D]. Shenyang University of Technology, 2020.
[13] Shen Jie. Research on Service Quality of Wireless Sensor Networks [D]. Zhejiang University, 2020.

[14] Tao Zheyuan. Analysis of factors influencing consumer satisfaction with online shopping based on online evaluation [D]. Beijing University of Chemical Technology, 2020.

[15] Xu Xiao. Research on the profit model of Pinduoduo and its financial evaluation [D]. Northwest Normal University, 2020.

[16] Poletan Jugović, Tanja, Gumzej, Roman, Čišić, Dragan. Supply Chain Service Quality Improvement by E-marketplace Automation [J]. Promet - Traffic&, 2019.

[17] Ahmad Samed Al-Adwan, Maher Ahmad Al-Horani. Boosting Customer E-Loyalty: An Extended Scale of Online Service Quality [J]. Information, 2019, 10(12).

[18] Frederic Marimon, Josep Llach, Mar Alonso-Almeida, Marta Mas-Machuca. CC-Qual: A holistic scale to assess customer perceptions of service quality of collaborative consumption services [J]. International Journal of Information Management, 2019, 49.

[19] Sanjay Dhingra, Shelly Gupta, Ruchi Bhatt. A Study of Relationship Among Service Quality of E-Commerce Websites, Customer Satisfaction, and Purchase Intention [J]. International Journal of E-Business Research (IJEBR), 2020, 16(3).

[20] Hoda Ghavamipoor, S. Alireza Hashemi Golpayegani. A Reinforcement Learning Based Model for Adaptive Service Quality Management in E-Commerce Websites [J]. Business&Information Systems Engineering: The International Journal of WIRTSCHAFTSINFORMATIK, 2020, 62(1)