# Research on Service Quality of Network Freight Transportation Platforms

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**Abstract: With the increasing number of network freight transport platforms, improving service quality is the key to retain customers in the enterprise. In order to improve the service quality of network freight platform, this paper evaluates and analyzes the service quality problems such as redundant platform interface design, lack of personalized service, lack of professionalism of customer service personnel, and threat to information security, which exist in the operation of the current network freight platform, and puts forward countermeasure suggestions such as simplifying the user process and interaction design, introducing machine learning and artificial intelligence technology, setting clear service standards and performance indicators, and adopting a multi-factor authentication system, in order to improve the service quality of network freight platform. It also puts forward countermeasures such as simplifying the user process and interaction design, introducing machine learning and artificial intelligence technology, setting clear service standards and performance indicators, and adopting a multi-factor authentication system, with a view to providing some reference for the improvement of the service quality of network freight transportation platforms.**

**Keywords: Network Freight Transportation Platform; Service Quality; Countermeasure Suggestion; Reference**

## 1. Introduction

As an emerging industry developed under the support of the "Internet +" logistics model, the network freight platform has gradually become an important bridge connecting the supply and demand sides of logistics in the rapid development of Internet technology and logistics industry today. Network freight platform through the digital way to optimize the freight transport process, improve the efficiency of logistics operations, reduce transportation costs, and provide users with more transparent and reliable services, not only changed the traditional freight industry mode of operation, but the entire supply chain management has also had a far-reaching impact.

Network freight platforms can provide services including financial services, after-market consumer services, digital management services, customer service support services, etc. However, as the number of network freight platforms soars, the competition between platforms is becoming more and more intense, the basic freight services provided in the past are no longer sufficient to meet the needs of customers, and platforms have gradually realized that the quality of service is the key to determining whether or not they can retain customers. Service quality can affect customer satisfaction and loyalty, which in turn affects the market competitiveness of the platform. Therefore, this paper takes the service quality of network freight transportation platform as the research object, analyzes its problems in depth, and provides practical improvement suggestions for the sustainable, healthy and stable development of network freight transportation platform.

## 2. Theoretical Foundations and Literature Review

Network freight platform is a kind of Internet-based logistics service platform, which uses digital technology to coordinate and optimize the process of cargo transportation and logistics, which not only brings innovation to the freight industry, but also has a far-reaching impact on the whole supply chain management. In recent years, with the rapid development of network freight transport, many scholars have

conducted a lot of research on network freight transport platform. Cottrill et al [1] organized and summarized the relevant literature on network freight transport platform and carefully introduced the development process of network freight transport platform. Cui [2] introduced the development status and policy measures of network freight transport platform in China. Miller et al [3] proposed a more efficient order combination that enables network freight platforms to find better order matching solutions for trucks. Gui et al [4] explored the impact of information strategy on the performance of network freight platforms in order to improve the competitive advantage of network freight platforms in a dynamically competitive market. Lv et al [5] analyzed the current dilemmas faced by network freight platforms and the advantages of the application of blockchain technology to the network freight industry, and constructed a network freight transportation platform based on coalition chain technology.

The service quality of network freight transportation platforms can directly affect customer satisfaction, loyalty and the overall market competitiveness of network freight transportation platforms. High-quality service can promote customer trust and lead to long-term cooperation, while poor service quality can lead to customer loss and damage the reputation of the platform. Therefore, continuously improving service quality and maintaining high service quality are the key factors for the healthy and stable development of network freight forwarding platforms. At present, many scholars have conducted in-depth research on logistics service quality. Wang [6] empirically examined the impact of the digital economy on logistics service quality and its mechanism based on provincial panel data in China. Li et al [7] combined the characteristics of the end-to-end logistics service and selected the Caijiao station in the cities of the three northeastern provinces of China as the object of their research and made corresponding suggestions for the deficiencies of Caijiao's service quality in various aspects. Yi et al [8] also proposed a new approach for the development of logistics service quality. Yi et al [9] analyzed the fresh food e-commerce logistics service quality measurement and specific application, and further proposed the improvement strategy of fresh food e-commerce logistics service quality under the normalization

of the epidemic. Tan [9] studied the current low quality of e-commerce logistics service from the perspective of the enterprise and the customer, proposed that the enterprise needs to strengthen the construction of logistics and distribution standardization system as well as the customer needs to strengthen the reasonable rights awareness of the proposal. need to strengthen the reasonable rights awareness of the proposal. Yuan et al [10] conducted an in-depth study on whether the quality of third-party logistics services will have an impact on customer loyalty, and found that the quality of third-party logistics operations, relationship quality and cost quality all have a significant positive impact on customer satisfaction.

In summary, the current scholars have made rich research results in the development status and countermeasures of network freight transportation platform and logistics service quality research, but few scholars have conducted research on the service quality of network freight transportation platform, and only some of the current research on the service quality of network freight transportation platform is also the research perspective on a single enterprise, and the problems that arise are not representative of the research results. It is difficult to apply to other network freight transportation platforms and the entire network freight transportation industry. Therefore, this paper will summarize and analyze the problems of service quality of the whole network freight industry and provide more general and applicable solutions for more network freight platform reference.

## 3. The Main Problems of the Current Network Freight Platform Service Quality

### 3.1 The Interface Design of the Network Freight Transportation Platform is Too Redundant

A simple and well-laid-out user interface can directly affect the operational efficiency of customers. However, some platforms pay too much attention to interface aesthetics and function integration in interface design, but neglect user experience, resulting in a complex interface and information overload, making it difficult for users to quickly find

the functions or information they need. In addition, some platforms lack effective information categorization and retrieval mechanisms, and the operation process is cumbersome and lacks clear prompts, which confuses users in the operation process.

## 3.2 Lack of Personalized Service on Online Freight Platforms

In the current market environment of increasingly diversified customer needs, online freight platforms that fail to provide services that meet the specific needs of individual customers may lose potential markets, especially those seeking highly customized logistics solutions. However, many platforms currently face a lack of personalized services. For example, in terms of transportation options, many platforms only offer standard routes, fixed transportation modes and a limited selection of vehicles, which makes it difficult to meet the diverse needs of different customers, not only restricting the competitiveness of the platforms, but also reducing the opportunities for deeper connections with customers.

## 3.3 Lack of Professionalism of Customer Service Personnel on Network Freight Transportation Platforms

Service personnel is an important channel of direct communication between network freight platform and users, and its professional quality and service consciousness have a direct and important impact on the platform service quality. At present, the professional quality and service consciousness of some service personnel of network freight transportation platform are insufficient, and they lack in-depth understanding of terms and processes specific to the network freight transportation industry, which leads to their inefficiency in dealing with specific issues, and even provide wrong information. This not only increases the waiting time of the customers, but even appears the misunderstanding and dissatisfaction of the customers. Secondly, another manifestation of the customer service team's lack of ability in dealing with problems is their slow response to customers, especially in emergency situations where customers need to solve their problems quickly, and if they are unable to deal with the user's problems in a timely manner at that time, it will greatly reduce the customer's trust in the platform.

## 3.4 Information Security Issues of Network Freight Transportation Platforms

While providing efficient logistics services, network freight forwarding platforms are facing information security challenges in various aspects. The first is the risk of data leakage. The platform stores a large amount of customer information, cargo data and transaction details, and if this sensitive information are not properly protected, they are vulnerable to hacking or internal leakage. However, through in-depth interviews with some network freight transportation platforms, it was learned that some platforms do not use encrypted transmission technology, resulting in user information being easily stolen, and some platforms do not strictly authenticate user identities, and there is a risk of identity fraud. In addition, the many participants involved in the logistics process and the complex supply chain network increase the complexity of data management, which further challenges platform information security.

The information security problem of network freight transportation platforms is also reflected in system vulnerabilities and internal threats. Both software and hardware can become a breakthrough for attackers to exploit. Moreover, misoperation or intentional destructive behavior of internal employees can also lead to bad information security incidents. In addition, with globalization, online freight platforms operating across borders need to comply with the data protection regulations of different countries, and the complexity of compliance issues brings additional challenges to information security management. These user information security issues can cause unnecessary distress and loss to users as well as negatively impact the reputation and trust of the platform.

## 3.5 Lack of Standardization of Service Processes on Network Freight Platforms

Service process standardization is an important means for network freight platforms to improve operational efficiency and user experience. Currently, different platforms have different service processes

and lack of unified service standards, which makes it difficult to guarantee service quality and increases the complexity and cost of operation. Platform services are not standardized, but also make the experience of different users inconsistent, affecting customer trust and satisfaction. In addition, some platforms have service standardization process, but the implementation of insufficient efforts to make the service standardization in name only. The lack of unified service standards between different platforms also makes cross-platform collaboration and data sharing within the industry more difficult, limiting the efficiency of the entire network freight industry.

### 3.6 Lack of Stability in Online Freight Platforms

The stability of online freight platforms is one of the key factors for their successful operation, but many platforms have problems in this area. Among the main causes of platform operational disruptions or service delays are inadequate technology. These problems can stem from server overload, hardware defects or incompatible system updates. When platforms fail to operate in a stable manner, the efficiency of cargo transportation can be seriously affected, especially during peak hours or emergencies, and this negative impact is particularly noticeable. In the long term, stability issues are also linked to the sustainability of the platform. Continuous technical problems and unstable operations can lead to a decline in customer trust and loss of market share for the platform, affecting the long-term profitability of the enterprise.

### 4. Countermeasures and Recommendations to Improve the Service Quality of Network Freight Transportation Platforms

### 4.1 Optimize User Experience and Simplify Platform Interface Design

To address the problem of overly redundant interface design for online freight platforms, it is first necessary for platforms to conduct user research and behavioral analysis. By collecting and analyzing user feedback, it is possible to determine which functions are most commonly used by users and which design elements cause confusion or inconvenience. Based on this data, the interface is redesigned to highlight the platform's core functions and eliminate or

rearrange infrequently used or minor functions. Second, the platform needs to adhere to clear and concise layout design principles. Use uniform fonts, colors and icon styles to improve the overall consistency and readability of the interface. Through reasonable layout arrangements, such as grouping similar functions and navigating with tabs or collapsed panels, it can make it easier for users to navigate and identify the functions they need. In addition, there is a need to ensure that the platform interface provides a good user experience on different devices, which includes adjusting the layout and element sizes to accommodate different screen sizes. It is also important to simplify user flow and interaction design, for example, by providing intelligent search functionality that reduces the number of steps and clicks required for an operation and improves user efficiency. Finally, the platform requires regular user interface feedback and iterative updates. Based on user usage and feedback, the interface design should be continuously optimized and adjusted to ensure that changes to the platform interface always meet user needs.

### 4.2 Provide Customized Solutions Using Technological Innovation

In order to increase the degree of personalization of the services provided by web-based freight forwarding platforms, it is first necessary to analyse customer order data. By collecting and analyzing users' historical order data, preferences and feedback, platforms can identify the specific needs and behavioral patterns of different customer groups, and can use this to develop more targeted services, such as specific transportation solutions for special cargo or rapid response services for urgent needs. Second, the introduction of machine learning and artificial intelligence technologies can further enhance the degree of personalization of services. Using these technologies, platforms can automatically recommend the most appropriate transportation solutions based on users' transaction history and preferences, while intelligent algorithms can optimize cargo matching and route planning to provide more efficient and cost-effective personalized logistics solutions. In addition, the establishment of a customer feedback

mechanism is also key to enhancing personalized services. Regular collection of user feedback not only helps to understand the user's satisfaction with the current service, but also points out the new service needs of the user and the places where the service needs to be improved. Finally, network freight platforms should strengthen customer management and provide customers with more personalized support and advice through dedicated customer service teams. For example, assign exclusive account managers to customers with large orders to provide customized service solutions and professional advice.

### 4.3 Comprehensively Improve the Network Freight Platform Customer Service Professionalism

To solve the problem of lack of professionalism in customer service of network freight transportation platform needs to start from various aspects. First of all, the platform needs to dedicate time to the customer service team for professional training. This includes knowledge of the logistics industry, platform operation process, customer communication skills and emergency handling ability training. Regular training courses are held to ensure that customer service personnel have an in-depth understanding of industry dynamics and platform functions and can effectively respond to a variety of inquiries and problems. Second, introduce advanced customer service technologies, such as AI customer service assistants and automated response systems, which can handle common problems and reduce the pressure on the customer service team, and reduce the platform's operating costs while improving response speed and service efficiency. For complex or special problems, the AI system can arrange suitable human customer service for customers to ensure that problems are handled professionally and accurately. Finally, incentives and reward mechanisms are also key to improving customer service professionalism. Setting clear service standards and performance indicators, rewarding and recognizing customer service personnel with excellent performance, and stimulating the work motivation of the customer service team.

### 4.4 Eliminating Security Threats to Online Freight Platforms

To address the potential information security issues of network freight transportation platforms, firstly, platforms need to encrypt all transmitted and stored data to ensure the security of sensitive information, such as users' personal data and transaction data. Second, platforms need to conduct regular system security scans. These tests help identify and fix system vulnerabilities that may be exploited by hackers. In addition, a multi-factor authentication system is used, especially when users access sensitive information or conduct transactions. This increases account security and reduces the risk of unauthorized access. Strong internal security policies and employee training, such as strong password policies and recognizing phishing emails, should also be established to reduce threats from within. Finally, develop and implement an emergency response plan. Being able to act quickly in the event of a data breach or other security incident minimizes the damage to the platform.

### 4.5 Sound Network Freight Service Standardization Work System

Enhance the standardization of network freight services, first of all, to achieve the unity of the online and offline service standards, do a good job of standardization offline at the same time to implement the standardization of online operations, so that the platform online and offline to achieve systematic collaboration. Secondly, it is necessary to accurately define the steps of each service process, from order receipt to cargo delivery, to ensure that all employees understand and follow the service process, and in the process of special arrangements for employees to monitor the implementation of standardized service processes. In addition, the need for regular standardization of staff training and implementation of the assessment, regular assessment of the implementation of staff to ensure that employees are familiar with and able to follow the standardized process. Finally, the establishment of an effective customer feedback system is also an important step to ensure the standardization of services, through the collection of customer feedback on the platform's service processes, to continue to optimize and adjust the standardized processes.

## 4.6 Improvement of the Operational Stability of the Network Freight Transportation Platform

Improving the stability of the operation of a web-based freight platform requires, first and foremost, strengthening the platform's infrastructure by upgrading the servers and database systems to ensure that they are able to cope with peak traffic and data-processing demands. And regular system maintenance and updates can improve system performance by ensuring that all system components are running on the latest versions. In addition the platform needs to ensure that in the event of a system failure there are backup systems in place that can quickly bring the servers back into use, and that backup and recovery processes are regularly tested to ensure their effectiveness. Finally, the platform needs to use performance monitoring tools to monitor the status of the system in real time and set up alerts so that it can be notified and act in a timely manner in the event of performance degradation or other problems.

## 5. Conclusions

With the increasing number of network freight platform, the platform gradually realized that improving service quality is the key to retain customers. Therefore, in order to improve the service quality of the network freight platform, this paper describes the development status of the network freight platform and the content of the services included, the current platform service quality problems for in-depth excavation and analysis, and the existence of the problem targeted to put forward the corresponding measures to solve the problem, so that the network freight platform can be sustainable, healthy and stable development.

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