Service quality, customer satisfaction and customer loyalty: Basis for customer retention framework in Chinese logistics companies

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Abstract

In the dynamic landscape of the logistics industry, particularly within the Chinese market, the interplay of logistics service quality, customer satisfaction, and customer loyalty has emerged as a critical area of study. This research delves into this complex relationship, set against the backdrop of an increasingly competitive and customer-centric logistics sector. The study's primary objective was to unravel the nuances of logistics service quality and its profound impact on customer satisfaction and loyalty, pivotal elements that drive the success of logistics companies in China. Adopting a methodical approach, the research involved a comprehensive questionnaire survey, gathering insights from 411 customers. Through rigorous mean analysis and correlation analysis, the study meticulously examined the intricate connections between the quality of logistics services, the level of customer satisfaction they engender, and the subsequent loyalty they foster. The findings reveal a significant correlation between these aspects, highlighting how enhanced service quality in logistics directly influences customer satisfaction, which in turn, bolsters customer loyalty. The culmination of this research is the proposition of a novel customer retention framework specifically tailored for Chinese logistics companies. This framework is designed to leverage the synergies between service quality, customer satisfaction, and loyalty, providing a strategic road map for logistics firms to enhance their customer retention strategies. In essence, this study not only underscores the critical importance of service quality in the logistics industry but also offers actionable insights for companies striving to thrive in the competitive Chinese market. The findings serve as a valuable guide for logistics practitioners, policymakers, and academics, emphasizing the need for an integrated approach that harmoniously blends service quality, customer satisfaction, and loyalty to drive sustainable business growth.

Keywords: Chinese logistics companies, service quality, customer satisfaction, customer loyalty, customer retention framework

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1. Introduction

With the rapid development of the Chinese economy and the improvement of information technology, the logistics industry in China, especially the specialized express logistics industry, is in a stage of vigorous development. With the development of the global economy and the intensification of market competition, the service economy has become increasingly important, and service level has gradually become an important indicator for evaluating the comprehensive strength of logistics companies(Wang, 2014). With the increasing attention of consumers towards the quality of logistics services, customers have higher expectations for the service quality and overall experience provided by logistics enterprises. Customer satisfaction has become an important indicator for measuring the service quality of logistics enterprises.

The logistics industry, as a fundamental, strategic, and guiding industry for socio-economic development, has also received attention from government departments. In 2017, the General Administration of Quality Supervision issued the "Guiding Opinions on Promoting the Improvement of Logistics Service Quality", which proposed to "strengthen the research of service quality evaluation indicators, models and methods, based on the key performance indicators of logistics management in large production enterprises, and study the establishment of a comprehensive evaluation system for logistics service quality"(Shi et al., 2020). At the same time, it is proposed to establish a sound logistics service quality standard system, encourage third-party institutions to carry out logistics company service quality evaluation, and carry out logistics service quality compliance evaluation and supervision inspections. To effectively regulate and improve the overall quality level of third-party logistics services, the National Logistics Standardization Technical Committee organized the Shanghai Institute of Quality and Standardization and other units to revise the national standard "Quality and Evaluation of Third-Party Logistics Services".

On June 1, 2022, the national standard "Logistics Service Quality and Evaluation" was officially implemented. On December 15, 2022, the State Council of China issued the "14th Five Year Plan for the Development of Modern Logistics", proposing to strengthen the empowerment and innovation drive of modern logistics technology and promote the expansion of modern logistics service fields and innovation of business models(Wang et al., 2022). Give full play to the role of modern logistics in connecting production and consumption, and integrate with advanced manufacturing, modern commerce, and modern agriculture to create a new space for value-added in the industrial chain.

In the logistics industry, service quality is considered one of the core factors of enterprise competitiveness, which has a significant impact on customer satisfaction and loyalty. The evolution of logistics service quality is closely tied to the advancements in technology and changing customer expectations. As highlighted by Wang and Sarkis (2021), the integration of technologies such as LOT, AI, and blockchain in logistics operations has revolutionized the way services are delivered, enhancing transparency, efficiency, and reliability. However, the core of logistics service quality extends beyond technological adoption. It encompasses a customer-centric approach, where understanding and meeting customer needs is paramount.

The standard for measuring customer satisfaction is the quality of logistics services, mainly reflected in the following aspects: whether it can bring high-quality experiences, whether it can meet customer needs, and whether it can bring warm services to customers. These aspects need to be considered and valued by enterprises because improving customer loyalty can help enterprises obtain more profits. So, in the logistics industry, logistics companies need to enhance their competitiveness and improve their logistics service level. Recent studies, such as those conducted by Majerčák (2020), emphasize the growing importance of personalized

services in logistics. The research indicates that customers now expect more than just timely deliveries; they seek a seamless, responsive, and tailored service experience. This shift necessitates a reevaluation of traditional logistics models, urging companies to adopt more agile, customer-focused strategies. Furthermore, the concept of sustainable logistics service quality has gained traction. Gruchmann et al. (2018) argue that sustainability in logistics services is no longer an option but a necessity. This involves environmentally friendly practices, ethical supply chain management, and a commitment to social responsibility. The integration of sustainability into service quality not only responds to global environmental concerns but also aligns with the increasing consumer demand for responsible and green logistics solutions.

In the dynamic world of logistics, customer satisfaction has evolved to become a central focus, mirroring the comprehensive transformation seen in sectors like the service industry. This shift in the logistics industry is not just about the efficient movement of goods but also about creating a customer experience that meets and exceeds expectations. The concept of customer satisfaction in logistics now encompasses a wide range of factors, from timely delivery to the quality of customer service and the adaptability of logistics solutions to customer needs. The service quality and customer satisfaction of logistics enterprises are directly related to their image and brand reputation. High-quality service and satisfactory customer experience not only establish a good image for logistics enterprises but also help attract more customers and increase market share.

Research by Rabinovich et al. (2023) underscores the importance of personalization in logistics services. Modern consumers seek more than just a transactional relationship; they desire a logistics partner that understands their specific needs and preferences. This trend has led to a growing emphasis on customized logistics solutions, where services are tailored to the unique requirements of each customer. Customer loyalty is a key factor for a company's long-term development. Improving customer loyalty can reduce a company's market development costs, increase repurchase rates and word-of-mouth dissemination, and create more long-term value for the company. The concept of customer loyalty in logistics is increasingly being shaped by a combination of service quality, customer satisfaction, and value-added experiences. As identified by Azab et al. (2021), the advent of advanced technologies in logistics operations, including AI, IoT, and blockchain, has not only streamlined service delivery but also opened new avenues for building customer trust and loyalty. These technologies enhance the transparency, efficiency, and reliability of logistics services, which are fundamental to fostering long-term customer relationships. Jang et al. (2013), studied the relationship between logistics service quality, customer satisfaction, and customer trust with customer loyalty, and found that logistics service quality affects customer loyalty through customer satisfaction and customer trust.

With the rapid development of e-commerce, consumer shopping habits have changed, leading to a surge in demand for fast and flexible logistics services. This poses higher service quality requirements for logistics service providers. Therefore, how to improve service quality, and enhance customer satisfaction and loyalty has become an urgent issue. Cultivating customer loyalty in the logistics industry today requires a multifaceted approach. It involves not only providing high-quality, reliable services but also engaging customers on a more personal level and aligning with their values, especially regarding sustainability. As the logistics industry continues to evolve amidst a competitive and technologically advanced landscape, fostering deep, value-driven customer relationships will be key to sustaining loyalty and achieving long-term success.

The outcomes of this study are instrumental in diagnosing the specific competencies needed in the logistics workforce to ensure they are well-prepared for the evolving demands of the industry. The feedback from customers serves as a cornerstone for logistics companies to formulate effective business strategies. These strategies aim to enhance the curriculum and training programs, thereby contributing to the efficiency, productivity, and overall service quality delivered by the employees of logistics companies.

In essence, the research is not just about understanding customer perceptions but also about enhancing the loyalty of customers in the logistics sector. It underscores the need for continuous learning and development in the industry and provides actionable insights for logistics companies to foster a workforce that is competent,

responsive, and customer-focused. The outcomes of the study offer a guide for both academic institutions and logistics companies, emphasizing the importance of a synergistic approach to education, training, and practical application in the field of logistics.

Objectives of the study - This study aimed to assess the service quality, customer satisfaction and customer loyalty SF express logistics company and to formulate framework that can be used to improve customer retention. Specifically, it aimed to describe service quality in terms of Process Quality, Result Quality, Service Guarantee; determine the customer satisfaction in view of Service Professionalism, Service Reliability Customer Emotions; evaluate customer loyalty in terms of Cognitive Loyalty, Behavioral Loyalty, Emotional Loyalty; test the significant relationship between service quality, customer satisfaction, and customer loyalty; develop a framework and development strategies for customer retention in Chinese logistics enterprises.

2. Methods

Research Design - This study intends to use a combination of qualitative and quantitative analysis to conduct research. The research subjects are five express logistics companies with significant influence in China. By designing a structured questionnaire that includes basic customer information, service quality, satisfaction evaluation, and loyalty evaluation, the questionnaire is sent to logistics company customers through random sampling, and data is collected anonymously using the 4-point rating method for measurement. After completing the questionnaire and collecting it, conduct descriptive statistical analysis on the collected questionnaire data, including mean, standard deviation, etc; Using correlation analysis methods, explore the correlation between logistics service quality, customer satisfaction, and loyalty. In addition, interviews will be conducted with management and employees of logistics companies to understand their understanding and views on the logistics service quality and customer satisfaction. Based on data analysis and interview results, explain what specific service quality factors play a key role in this process, and explore possible reasons and solutions.

Participants - To make the research more typical, this study selected 4 well-known Chinese express logistics companies as research subjects and distributed survey questionnaires to 411 customers of these companies. The survey targets practitioners from various industries, including students, teachers, doctors, administrators, and freelancers. They all used the logistics services provided by logistics companies and were able to make objective and fair evaluations of the service quality and satisfaction of logistics companies based on their own usage experience.

Instrument - The research instruments used in this study mainly include survey questionnaire and data analysis. A Likert four-point scale questionnaire was designed for logistics service quality and customer satisfaction. The questionnaire covers various aspects of logistics services, including delivery time, packaging integrity, transportation costs, customer service quality, and customer satisfaction evaluations in these areas. In addition, IBM SPSS Statistics is used to analyze the collected data and identify key factors that affect customer satisfaction through data mining, providing a basis for improving logistics service quality and customer loyalty.

Data Gathering Procedure - The purpose of this study is to evaluate the current development status of China's logistics industry by distributing online questionnaires to customers of Chinese express logistics companies. This questionnaire aims to obtain the evaluation of the service quality of Chinese logistics companies by their customers, as well as their satisfaction and loyalty. The questionnaire went through a pilot testing phase before actual distribution. It was reviewed by a small group of experts and potential respondents to ensure clarity, relevance and unbiasedness. Feedback from the pilot phase was incorporated to refine the questionnaire and improve its validity and reliability. It was distributed through the online platform Questionnaire.com, which was selected for its ease of use, accessibility, and ability to reach a wide audience in different regions of China. An invitation to participate and a brief introduction to the study were sent to potential respondents to ensure they understood the purpose and significance of the study. Once the data collection phase is complete, responses are downloaded from the platform in a structured format suitable for analysis. Initial data cleansing is performed to

remove any incomplete or inconsistent responses, which ensures that subsequent analysis is based on accurate and high-quality data.

Data Analysis - This study mainly used the following data analysis methods. (1) Descriptive statistical analysis: summarizing and describing the collected survey questionnaire data as a whole. Then we calculated indicators such as mean, standard deviation, frequency distribution, etc., in order to understand the basic situation of each variable. (2) Correlation analysis: by calculating the correlation coefficients between variables, it is possible to explore the correlation and significance between the research variables. This study used the Pearson correlation coefficient and Spearman correlation coefficient methods to conduct correlation analysis and significance testing on each dimension of the variables. SPSS were also used to interpret and analyze the data.

Ethical Consideration - The researcher fully respects the rights and privacy of participants and conducts research in a legal, ethical, and transparent manner to ensure the reliability and scientific of the research results. Before conducting data collection, ensure that participating clients understand the purpose, process, and potential risks. In the process of data analysis and result presentation, it is possible to protect the personal privacy of respondents and the confidentiality of data. Strictly comply with relevant laws and regulations in data processing and storage, and properly handle and store participant data.

3. Results and discussion

Table 1

Summary Table on Service Quality of Chinese Logistics Companies

Key Result Areas	WM	VI	Rank
Process Service Quality.	2.73	Agree	3
Result Service Quality	2.76	Agree	2
Service Quality Assurance	2.77	Agree	1
Composite Mean	2.75	Agree	

Legend:3.50-4.00=Strongly Agree;2.50-3.49=Agree;1.50-2.49=Disagree;1.00-1.49=Strongly Disagree

Analyzing Table 1, which provides a summary of the service quality in Chinese logistics companies, we delve into an in-depth examination of various aspects of service quality, encompassing process service, result service, and service assurance. The table, structured on a Likert scale, offers a comprehensive view of these key result areas, reflecting a general agreement among respondents but also highlighting areas for potential enhancement. The composite mean score of 2.75 in the "Agree" range indicates a generally positive perception of service quality in Chinese logistics companies. This score suggests that, overall, these companies are meeting the basic expectations of their customers. However, the proximity of this score to the lower end of the "Agree" spectrum implies that there are significant opportunities for improvement.

Process service quality, with a weighted mean of 2.73 and ranked third, reflects the operational aspects of logistics services. This includes the efficiency of operations, the convenience of service processes, and the proficiency of personnel. While the score indicates a level of satisfaction, it also suggests that logistics companies could enhance their operational processes. As noted by Lang (2020) operational efficiency and streamlined processes are crucial in logistics, impacting customer satisfaction and loyalty. Result service quality, scoring 2.76 and ranked second, pertains to the outcomes of the logistics services, such as the timeliness of deliveries and the condition of goods upon arrival. This slightly higher score indicates a relative strength in the outcome of services provided by these companies. However, as Jiang et al. (2020) emphasize, the logistics industry is increasingly competitive, and companies must continually strive to improve delivery outcomes to maintain and enhance customer satisfaction.

Service quality assurance, scoring the highest at 2.77 and ranked first, relates to the policies and measures in place to ensure service quality, including customer data protection, complaint resolution, and compensation for service failures. This area's relatively higher score suggests that customers appreciate the efforts made by logistics companies in assuring service quality. However, in an era of increasing customer expectations and digital

transformation, logistics companies must constantly innovate and improve their service quality assurance mechanisms (Cho et al., 2021). To achieve this, adopting advanced metrics and continual feedback loops is essential, as these strategies not only help in identifying gaps in service delivery but also drive improvements that meet the changing expectations of customers (Huang et al., 2012).

The analysis of Table 4 reveals a logistics sector that is performing adequately in key areas of service quality but also highlights specific aspects where enhancements could further improve customer satisfaction. The overall positive response indicates a solid foundation in service quality, with opportunities for logistics companies to differentiate themselves further by focusing on areas like process efficiency, outcome reliability, and robust service quality assurance. As the logistics industry continues to evolve, particularly with the increasing importance of digital transformation, attention to these finer details of service quality will be key to maintaining and enhancing customer trust and loyalty.

Table2

Summary Table on Customer Satisfaction of Chinese Logistics Companies

Key Result Areas	WM	VI	Rank
Service Professionalism	2.76	Agree	3
Service Reliability	2.78	Agree	1.5
Customer Emotions	2.78	Agree	1.5
Composite Mean	2.77	Agree	

Legend:3.50-4.00=Strongly Agree;2.50-3.49=Agree;1.50-2.49=Disagree;1.00-1.49=Strongly Disagree

Analyzing Table 2, which provides a summary of customer satisfaction in Chinese logistics companies, we gain a comprehensive view of how customers perceive various aspects of logistics services. The table, structured on a Likert scale, assesses key result areas including service professionalism, service reliability, and customer emotions. With a composite mean score of 2.77 in the "Agree" range, the findings suggest an overall positive perception of logistics services, though there is room for improvement in certain areas.

The analysis of Table 2 reveals that Chinese logistics companies are generally perceived positively by their customers across various service dimensions. However, the closeness of the scores to the lower boundary of the "Agree" range highlights opportunities for these companies to further enhance their services. Focusing on areas such as improving service professionalism, maintaining high standards of service reliability, and continuing to foster positive customer emotions can lead to even higher levels of satisfaction. As the logistics industry continues to evolve, particularly with increasing competition and customer expectations, attention to these aspects will be key to maintaining and enhancing customer loyalty and satisfaction. The overall positive response suggests a customer-oriented logistics sector, with potential for further refinement to sustain and improve the quality of customer service.

Table 3

Summary Table on Customer Loyalty of Chinese Logistics Companies

Key Result Areas	WM	VI	Rank
Cognitive Loyalty	2.79	Agree	1
Behavioral Loyalty	2.77	Agree	3
Emotional Loyalty	2.78	Agree	2
Composite Mean	2.77	Agree	

Legend:3.50-4.00=Strongly Agree;2.50-3.49=Agree;1.50-2.49=Disagree;1.00-1.49=Strongly Disagree

Analyzing Table 3, we explore the multifaceted nature of customer loyalty towards Chinese logistics companies. This table provides a summary view of customer loyalty, segmented into cognitive, behavioral, and emotional dimensions. With a composite mean score of 2.77 in the "Agree" range, the findings suggest that customers generally exhibit loyalty towards these companies, though the degree of loyalty varies across different dimensions. The highest weighted mean (WM) is observed in cognitive loyalty (2.79), indicating that customers' beliefs and perceptions about the logistics companies are the strongest drivers of loyalty. This aligns with the

findings of Huang and Sudhir (2021) who emphasized the critical role of cognitive aspects in shaping customer loyalty in service industries.

Emotional loyalty follows closely with a WM of 2.78, suggesting that customers' emotional attachments and personal experiences with these companies significantly influence their loyalty, a concept explored by Cheng (2021) in the context of emotional connections in service settings. Behavioral loyalty, while slightly lower at a WM of 2.77, still plays a crucial role, reflecting the actual customer actions and habits in using logistics services, as discussed by Liu and Yang (2017) in their study on behavioral patterns in customer loyalty. The composite means of 2.77 across all areas indicate a general agreement among customers in all three loyalty dimensions, underscoring the multifaceted nature of loyalty in the logistics sector. Moreover, the interplay of these loyalty dimensions suggests that logistics companies must adopt a holistic approach to cultivate loyalty, recognizing that each dimension serves as a vital component in the overall customer experience and retention strategy (Shao & Huang, 2021; Meidutė-Kavaliauskienė et al., 2014).

The overall scores across the three key result areas of loyalty indicate that customers have a positive perception of and engagement with Chinese logistics companies. This positive response is crucial for the logistics industry, as customer loyalty is a key driver of business sustainability and growth. For logistics companies, understanding these different dimensions and tailoring strategies to enhance all aspects of loyalty can lead to stronger customer relationships and sustained business success.

Table 4

Relationship Between Service Quality and Customer Satisfaction

Variables	rho	p-value	Interpretation
Process Quality			
Service Professionalism	0.891**	<.001	Highly Significant
Service Reliability	0.894**	<.001	Highly Significant
Customer Emotions	0.891**	<.001	Highly Significant
Result Quality			
Service Professionalism	0.884**	<.001	Highly Significant
Service Reliability	0.878**	<.001	Highly Significant
Customer Emotions	0.870**	<.001	Highly Significant
Service Guarantee			
Service Professionalism	0.893**	<.001	Highly Significant
Service Reliability	0.879**	<.001	Highly Significant
Customer Emotions	0.872**	<.001	Highly Significant

**. Correlation is significant at the 0.01 level

Analyzing Table 4, this explore the intricate relationship between service quality and customer satisfaction within the context of Chinese logistics companies. This table, employing statistical measures such as rho values and p-values, provides a robust quantitative assessment of how different facets of service quality correlate with customer satisfaction. Table 4 categorizes service quality into three distinct dimensions: Process Quality, Result Quality, and Service Guarantee. Each dimension is further examined through sub-variables: Service Professionalism, Service Reliability, and Customer Emotions. The consistently high rho values, ranging from 0.870 to 0.894, indicate a very strong direct relationship between these aspects of service quality and customer satisfaction. The significance of these relationships is underscored by p-values less than 0.01, denoting high statistical significance.

In Process Quality, the sub-variables exhibit a strong correlation with customer satisfaction. Service Professionalism ($\rho = 0.891$), Service Reliability ($\rho = 0.894$), and Customer Emotions ($\rho = 0.891$) are all highly significant. This suggests that the way services are delivered, including staff professionalism and the emotional impact on customers, is crucial for satisfaction. The findings align with Parasuraman et al. (1991) service quality model, which emphasizes that the quality-of-service results, including reliability and emotional response, directly impacts customer satisfaction. Moreover, enhancing result quality through consistent performance and superior outcomes is essential for logistics companies to foster customer satisfaction and loyalty, as evidenced by

various studies that correlate high service quality with improved customer experiences and retention rates in the logistics sector (Shao & Huang, 2021).

The Service Guarantee dimension, encompassing Service Professionalism ($\rho = 0.893$), Service Reliability ($\rho = 0.879$), and Customer Emotions ($\rho = 0.872$), also shows a strong correlation with customer satisfaction. This reflects the importance of consistent service quality and meeting customer expectations. Service guarantees are a tangible demonstration of a company's commitment to quality and reliability. Furthermore, these guarantees not only reassure customers but also serve as a competitive advantage in a saturated market, highlighting the necessity for logistics companies to prioritize the establishment and maintenance of comprehensive service quality frameworks that address both operational and relational aspects of customer interactions (Shao & Huang, 2021).

Overall, the analysis of Table 4 highlights the critical interplay between various dimensions of service quality and customer satisfaction in the logistics industry. The strong correlations suggest that logistics companies must focus on enhancing both the process and outcomes of their services, along with providing robust service guarantees, to improve customer satisfaction. This involves a holistic approach to service delivery, addressing both tangible and intangible aspects, as suggested by Kotler and Keller (2016). In the competitive landscape of logistics services, these insights are invaluable for companies aiming to enhance their service quality and, consequently, customer satisfaction.

Table 5

Relationship Between Service Quality and Customer Loyalty

Variables	Rho	p-value	Interpretation
Process Quality			
Cognitive Loyalty	0.889**	<.001	Highly Significant
Behavioral Loyalty	0.896**	<.001	Highly Significant
Emotional Loyalty	0.889**	<.001	Highly Significant
Result Quality			
Cognitive Loyalty	0.867**	<.001	Highly Significant
Behavioral Loyalty	0.879**	<.001	Highly Significant
Emotional Loyalty	0.874**	<.001	Highly Significant
Service Guarantee			
Cognitive Loyalty	0.882**	<.001	Highly Significant
Behavioral Loyalty	0.867**	<.001	Highly Significant
Emotional Loyalty	0.881**	<.001	Highly Significant

**. Correlation is significant at the 0.01 level

Analyzing Table 5, we delve into the relationship between service quality and customer loyalty in the context of Chinese logistics companies. This table, utilizing rho values and p-values, offers a quantitative assessment of how different dimensions of service quality correlate with various aspects of customer loyalty, namely cognitive, behavioral, and emotional loyalty. Table 5 categorizes service quality into three key areas: Process Quality, Result Quality, and Service Guarantee. Each area is examined in relation to the three types of customer loyalty. The consistently high rho values, ranging from 0.867 to 0.896, indicate a very strong direct relationship between these service quality dimensions and customer loyalty. The significance of these relationships is further reinforced by p-values less than 0.01, denoting high statistical significance.

Process Quality's strong correlation with all three types of loyalty underscores the impact of service delivery on customer loyalty. Cognitive Loyalty ($\rho = 0.889$), Behavioral Loyalty ($\rho = 0.896$), and Emotional Loyalty ($\rho = 0.889$) are all highly significant. This suggests that the logistics process, from the professionalism of staff to the efficiency of operations, plays a crucial role in shaping customers' beliefs, actions, and emotional attachments. Consequently, logistics companies must prioritize process quality enhancements to effectively foster loyalty across all dimensions, ensuring that their operational practices consistently meet and exceed customer expectations to remain competitive in an evolving market landscape (Cho et al., 2021).

Result Quality's significant correlation with customer loyalty reflects the importance of service outcomes. Cognitive Loyalty (ρ = 0.867), Behavioral Loyalty (ρ = 0.879), and Emotional Loyalty (ρ = 0.874) indicate that effective and satisfying service results are key in fostering customer loyalty. Additionally, recognizing that customers often base their loyalty on both tangible outcomes and their overall service experience, logistics companies must prioritize the continuous enhancement of these service qualities to cultivate lasting relationships with customers and exceed their expectations, thereby reinforcing loyalty and satisfaction in an increasingly competitive

The strong correlation of Service Guarantee with customer loyalty across all types highlights the importance of consistent service quality and meeting customer expectations in building loyalty. Cognitive Loyalty (ρ = 0.882), Behavioral Loyalty (ρ = 0.867), and Emotional Loyalty (ρ = 0.881) suggest that guarantees provided by logistics services, such as reliability and consistency, are critical factors in customer loyalty. This implies that logistics companies must not only deliver promising service outcomes but also ensure that they can uphold these promises through strong guarantees to foster a loyal customer base, which is supported by findings that emphasize how reliability and service consistency are pivotal to customer retention in a competitive logistics market (Nugroho et al., 2020).

Table 6

Relationship Between Customer Satisfaction and Customer Loyalty

Variables	Rho	p-value	Interpretation
Service Professionalism			
Cognitive Loyalty	0.878**	<.001	Highly Significant
Behavioral Loyalty	0.865**	<.001	Highly Significant
Emotional Loyalty	0.882**	<.001	Highly Significant
Service Reliability			
Cognitive Loyalty	0.870**	<.001	Highly Significant
Behavioral Loyalty	0.875**	<.001	Highly Significant
Emotional Loyalty	0.873**	<.001	Highly Significant
Customer Emotions			
Cognitive Loyalty	0.873**	<.001	Highly Significant
Behavioral Loyalty	0.852**	<.001	Highly Significant
Emotional Loyalty	0.876**	<.001	Highly Significant

**. Correlation is significant at the 0.01 level

Analyzing Table 6, this delve into the relationship between customer satisfaction and customer loyalty within the logistics industry in China. This table employs statistical measures, specifically rho values and p-values, to assess the strength and significance of the relationship between key aspects of customer satisfaction – Service Professionalism, Service Reliability, and Customer Emotions – and various dimensions of customer loyalty: cognitive, behavioral, and emotional. Table data reveals a strong correlation between customer satisfaction variables and different types of customer loyalty. The high rho values, all above 0.850, indicate a very strong direct relationship, and the p-values being less than 0.01 confirm the statistical significance of these relationships.

The strong correlation between Service Professionalism and all three types of loyalty (Cognitive Loyalty ρ = 0.878, Behavioral Loyalty ρ = 0.865, Emotional Loyalty ρ = 0.882) suggests that the professionalism of service significantly influences customer loyalty. This is evidenced by research highlighting that well-trained and knowledgeable staff create positive perceptions of the service, which in turn enhances customers' trust and emotional attachment to the brand (Ashraf et al., 2018).

Service Reliability also shows a significant correlation with customer loyalty. Cognitive Loyalty (ρ = 0.870), Behavioral Loyalty (ρ = 0.875), and Emotional Loyalty (ρ = 0.873) indicate that reliable service delivery is crucial in fostering customer loyalty. This indicates that customers expect not only consistent performance from logistics providers but also a dependable experience that aligns with their expectations, further emphasizing the necessity for companies to focus on reliability as a cornerstone of their service strategy to enhance loyalty and

maintain a competitive edge in the market (Huma et al., 2019). Moreover, the correlation between Customer Emotions and loyalty types (Cognitive Loyalty $\rho = 0.873$, Behavioral Loyalty $\rho = 0.852$, Emotional Loyalty $\rho = 0.876$) suggests that emotional aspects of service significantly influence loyalty. This indicates that logistics companies must not only focus on technical aspects of service delivery but also recognize the emotional connections formed through positive customer interactions, as customer emotions can significantly enhance loyalty and advocacy for the brand, underscoring the importance of emotional intelligence in service workers (Prentice & Nguyen, 2020).

Thus, the strong correlations across all dimensions suggest that logistics companies must focus on enhancing service professionalism, reliability, and emotional engagement to improve customer loyalty. This involves a comprehensive approach to service delivery, addressing both tangible and intangible aspects to foster cognitive, behavioral, and emotional loyalty. As the logistics sector continues to evolve, particularly in an increasingly competitive market, these insights are invaluable for companies aiming to enhance their service quality and, consequently, customer loyalty.

4. Research Output
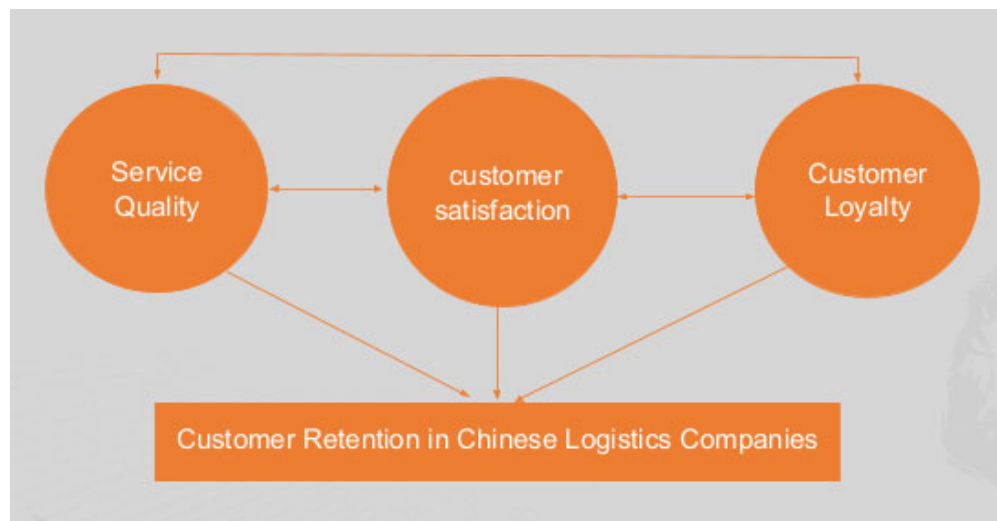
The framework is about customer retention in Chinese logistics companies. It shows that service quality directly affects customer satisfaction, and customer satisfaction directly affects customer loyalty. Customer loyalty in turn has a positive effect on customer retention. In other words, if Chinese logistics companies want to retain customers, they need to provide good service. This will make customers satisfied, which will then lead to customer loyalty. Loyal customers are more likely to continue using the company's services in the future. This is important for Chinese logistics companies because competition in the logistics industry is high. By providing good service and building customer loyalty, logistics companies can increase their market share and profitability.

5. Conclusions and recommendations

The customers moderately agreed on the service quality given by the logistic companies The customers have moderate level of customer satisfaction on the services of logistics companies. Across all three dimensions of cognitive, behavioral, and emotional loyalty, customers exhibit a remarkably moderate level of agreement in their positive assessment on logistics companies. There is highly significant relationship between service quality, customer satisfaction, and customer loyalty which signifies that high correlation in service quality lead to increased customer satisfaction, which in turn fosters greater customer loyalty. A framework of customer retention in Chinese logistics companies was formulated. The logistic companies may conduct regular customer satisfaction surveys to identify evolving needs and track the effectiveness of implemented improvements. The company may leverage on innovative technology like AI-powered chatbots, automated tracking systems, and

real-time delivery updates to enhance customer experience and efficiency. The logistic company may recognize the diversity of customers preference and tailor their service offerings and customer engagement strategies to cater to different customer segments. The future researchers may Investigate on the emotional aspects of customer experiences and their impact on loyalty like trust, convenience, perceived value, and brand perception in relation to service quality.

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