

Investigation and Research on the Current Status of Logistics Service Quality at Fedex Corporation

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Abstract

With the rapid development of international economic trade, the demand for international logistics is also continuously rising, while the development of its supply chain shows signs of insufficient momentum. The primary task to improve the lagging status of supply chain development is to address logistics issues. Therefore, international logistics enterprises should continuously enhance and improve their logistics service capabilities. This paper takes the express logistics service quality of Fedex Corporation as the research object, conducting an investigation, analysis, and research on Fedex's development status and current state of customer service quality. Based on the SERVQUAL model, through quantitative and qualitative methods such as questionnaires and interviews, it identifies existing problems and proposes targeted countermeasures and suggestions.

Keywords: Logistics Service Quality; SERVQUAL Model; Improvement Suggestions

1. Introduction

1.1. Research Background

With the rapid development of international economic trade and the vigorous growth of cross-border e-commerce, the demand for international logistics is also continuously climbing. In the past five years alone, due to the rapid rise of cross-border e-commerce, China's cross-border e-commerce trade volume has grown by tens of times. Consequently, influenced by commercial flow, the demand for cross-border logistics has also surged rapidly. Against this backdrop of massive demand, the increase in demand for international logistics services and their importance become evident. Furthermore, China ranks first globally in maritime connectivity. The international air cargo network is continuously being improved and expanded, currently reaching over 60 countries and regions. The China-Europe Railway Express connects 25 countries and more than 220 cities. Among 82 open international highway ports, 68 handle international road

transport business. These data strongly demonstrate the development, continuous expansion, and refinement of the international logistics circulation network. Against the backdrop of digital transformation, the international logistics industry is developing rapidly (as shown in Table 1). From 2015 to 2022, China's foreign trade experienced fluctuating growth, with a growth rate of 59.46%. Consequently, the number of express parcels showed a significant upward trend, exceeding 100 billion pieces in 2021. In 2022, it grew by 899.15 billion pieces compared to 2015, representing a growth rate of 435.09%.

Table 1. China's Import-Export Trade and Express Development from 2015 to 2022

Year	Foreign Trade Scale / USD 100 Million	Foreign Trade Growth Rate / %	Number of Express Parcels / 100 Million Pieces	Freight Volume / 10,000 Tons
2015	39569.01	-8.04	206.66	4175886
2016	36849.14	-6.87	312.83	4386763
2017	41071.64	11.46	400.56	4804850
2018	46224.15	12.55	507.10	5152732
2019	45778.91	-0.96	635.23	4713624
2020	46559.13	1.70	833.58	4725862
2021	60501.60	29.95	1082.96	5298499
2022	63096.00	4.40	1105.81	5152600

As the global pandemic gradually comes under control and the economy recovers, international express business will gradually return to normal and achieve further development. Simultaneously, amidst the rapid development and application of internet technology, the development of its supply chain shows signs of insufficient momentum, forming a certain obstacle to overall development. The smooth conduct of international business activities highly depends on the perfection of the supply chain system, with the logistics system playing a key role as a supporting link. By integrating core functions such as warehouse management, packaging optimization, and transportation scheduling, the modern logistics system provides fundamental guarantees for commodity circulation. It is noteworthy that the level of specialization in logistics services directly affects customer experience and operational efficiency, making the enhancement of logistics capabilities a crucial breakthrough point for optimizing the supply chain system. For cross-border logistics enterprises, while seizing development opportunities in the wave of digitalization, it is even more essential to establish a service quality evaluation system to achieve continuous improvement of service processes through systematic diagnosis.

Taking the globally leading express service provider Fedex Group as an example, the company has built a multi-dimensional transportation network covering air and ground transport. Its

business scope encompasses diverse areas such as urgent shipment transportation, bulk cargo distribution, and document handling. Relying on a unique competitive-collaborative management model, its service network extends to 235 countries and regions, with 98% of time-sensitive cargo delivered accurately within 48 hours. This highly efficient operation model helps the company maintain an annual revenue scale of USD 32 billion. However, the latest disclosed performance for the first quarter of fiscal year 2025 (statistical period ending August 31, 2024) showed quarterly revenue of USD 21.6 billion, a year-on-year decline of approximately 0.5%, slightly below the market forecast baseline of USD 21.87 billion. EPS (diluted earnings per share) was USD 3.60, down 20.9% year-on-year; operating profit decreased by 23.9%, also below analysts' expectations. The data indicates that Fedex faced significant challenges in 2024. The overall situation is not optimistic, requiring effective measures to address the current market environment and economic challenges.

As China enters a new stage of high-quality economic development, corporate competition is intensifying. Logistics service quality, as a crucial means to gain competitive advantage, positions Fedex as a leader among international logistics companies. However, service quality issues such as cumbersome logistics processes, untimely delivery, long logistics times, and high operating costs have become obstacles to its development. Therefore, Fedex must adopt practical methods or measures to address these shortcomings, improve its logistics service quality, enhance its corporate competitiveness, and achieve rapid development.

1.2. Research Purpose and Significance

This study takes Fedex's existing service quality problems as its research object, conducting an investigation, analysis, and research on Fedex's development status and current state of customer service quality. It aims to understand the current problems, conduct research based on existing relevant theories, and propose targeted countermeasures and suggestions. It intends to address issues such as cumbersome logistics processes, untimely delivery, long logistics times, high operating costs, and technological innovation. While enjoying the dividends brought by the rapid development of the internet, international logistics enterprises should continuously enhance their logistics service capabilities, effectively evaluate and improve their own service quality to achieve rapid development.

Researching the logistics service quality of express companies holds multiple significances. Theoretically, this study helps improve the theoretical system of logistics service quality management. Existing research mostly focuses on traditional manufacturing supply chains, with insufficient attention paid to the dynamic and fragmented service characteristics of the express industry. By constructing a service quality evaluation model applicable to the express industry, it can fill the research gap in the systematic deficiency of evaluation indicators in this field, providing a theoretical framework for subsequent academic research. Simultaneously, it can deepen the understanding of the value creation mechanism in logistics services.

Practically, the research findings can provide decision-making support for the high-quality development of the industry. By identifying service shortcomings in express companies, it helps enterprises optimize resource allocation, specifically enhance timeliness, safety, and service

response capabilities, thereby increasing customer loyalty and brand competitiveness. For regulatory authorities, the evaluation system proposed in the study can provide a basis for formulating industry service standards and improving consumer rights protection policies.

1.3. Literature Review

In recent years, logistics service quality has received widespread attention from relevant government departments, enterprises, and researchers in China. Research in this area is gradually unfolding. The quality of service is a decisive factor for the success or failure of international logistics enterprises in fierce market competition, making the improvement of logistics service quality particularly important. Consequently, it has attracted the attention of numerous experts and scholars, whose research mainly focuses on the following aspects.

(1) Research on Logistics Service Quality

Against the backdrop of accelerated global supply chain restructuring, the strategic value of logistics service quality is increasingly prominent, becoming a key focus area for both academia and industry. Yao Kebiao (2007) emphasized in early research that service effectiveness constitutes the core of value creation for multinational logistics enterprises. In a dynamically competitive market environment, the advancement of service standard systems directly determines a company's industry position. His research pointed out that building a customer value-oriented quality management system (QMS) is a crucial strategic pivot for enterprises to achieve service innovation and sustainable development.

Wang Zhitai (2011), an authoritative scholar in this field, constructed a theoretical framework for service quality in Modern Logistics Management, revealing that the logistics quality system is essentially an organic component of the service value chain. The research specifically noted that due to the significant service touchpoint management characteristics of logistics operations, the Service Quality Maturity Model (SQMM) should serve as the core module of the full-process quality traceability system. This theoretical construct has been validated through industry survey data from the China Federation of Logistics & Purchasing, showing that a 10% increase in service standard compliance rate can lead to a 23.6% growth in customer renewal rate.

(2) Research on the Logistics Service Evaluation Index System for Logistics Enterprises

The current field of logistics service quality assessment shows a trend of diversified methodological innovation, with mainstream research often adopting a dual-model fusion path of SERVQUAL and LSQ. Wu Bing (2024) innovatively transformed the SERVQUAL scale into a three-dimensional evaluation framework (service commitment fulfillment, process controllability, emergency response effectiveness), conducting empirical research on a company's third-party logistics network. Using structural equation modeling, he verified the mediating effect of service quality on customer loyalty. Notably, Chen Jun (2024) proposed the SCM-CPFR collaborative model from the perspective of value network restructuring. Through technological innovations such as establishing a dynamic inventory collaboration mechanism, building intelligent replenishment algorithms, and optimizing multi-level distribution node layouts, empirical results showed it could reduce total supply chain costs by 18.7% and customer complaint rates by 24.3%.

Research in the context of digital transformation presents new trends. Wang Yaping (2024) used a mixed-methods approach to conduct cross-case analysis of the Top 10 international logistics companies, constructing a Digital Trust Index (DTI) evaluation system covering emerging indicators such as smart contract fulfillment rate and blockchain traceability completeness. The research revealed that customer experience pain points are mainly concentrated on insufficient integration of omnichannel service touchpoints (accounting for 37.6%) and delayed responses from intelligent customer service (accounting for 28.9%). Zhao Bowen (2022) developed a four-dimensional diagnostic model (service anticipation capability, process visualization, exception handling efficiency, value co-creation level), innovatively applying the Trapezoidal-TOPSIS integrated method in the case of Company L. Through Customer Journey Mapping (CJM), he identified 23.4% critical quality gaps at service touchpoints .

(3) Research on SERVQUAL Model Application

Since its proposal, the SERVQUAL model has become a core theoretical tool for service quality evaluation. It measures the gap between customer expectations and perceptions through five dimensions (Reliability, Responsiveness, Assurance, Empathy, Tangibles), laying the foundation for quantitative research on service quality. In the logistics field, scholars have adapted the model to industry characteristics, constructing a nine-dimensional framework for logistics service quality, adding indicators such as order processing and timeliness. Combining it with supply chain management, an "Information Quality" dimension has been expanded to reflect the collaborative characteristics of logistics services. Recent research further focuses on model innovation for digital scenarios, visualizing IoT data as a new type of "Tangibles" indicator.

(4) Evaluation of Existing Research Achievements

Existing research on logistics service quality has achieved substantial progress in theoretical exploration and methodological application. On one hand, classic models such as SERVQUAL and LSQ have been continuously adjusted to fit the logistics industry, with new dimensions like "Information Quality" and "Digital Trust Index" added to adapt to digital transformation. On the other hand, empirical studies have covered third-party logistics, cross-border e-commerce logistics, etc., providing practical references for industry development. However, three key research gaps remain. First, most studies focus on the overall logistics industry or traditional manufacturing supply chains, lacking in-depth case studies on leading international express enterprises like Fedex, especially research on how to balance global service standards and regional customer needs. Second, the "Economic Dimension" in service quality evaluation is often overlooked—existing studies rarely link pricing strategies, cost control, and customer value perception under digital transformation, making it difficult to provide targeted suggestions for enterprises facing profit pressure. Third, the combination of qualitative and quantitative methods is insufficient: interviews with internal employees mostly stay at the descriptive level, and there is a lack of systematic coding and analysis to verify questionnaire results, resulting in incomplete research perspectives.

This study aims to fill these gaps. By taking Fedex as a typical case, it expands the SERVQUAL model with the "Economic Dimension" to explore the matching degree between service quality and customer needs in the context of digital transformation. Meanwhile, it uses Nvivo for coding analysis of interview data and combines it with questionnaire data to form a "customer-internal employee" dual verification system, enhancing the depth and comprehensiveness of research conclusions. To further summarize the existing research and clarify the research positioning of this paper, the following content is added: In summary, current research on logistics service quality has formed a relatively complete theoretical framework, with continuous innovation in evaluation models and methods, and gradual expansion of research scenarios to the context of digital transformation. The academic community has reached a consensus that logistics service quality is a multi-dimensional concept, and the evaluation needs to combine the industry characteristics and customer demand differences. However, there is still a lack of in-depth research on the following aspects: First, the application of the SERVQUAL model in international express enterprises, especially the expansion and verification of the "Economic Dimension" for enterprises with global operation characteristics like Fedex; second, the integration of qualitative and quantitative research methods in the specific case studies, such as the systematic analysis of interview data and the mutual verification with questionnaire data; third, the targeted research on the balance between global service standards and regional customer needs of international express enterprises. This study takes Fedex as the research object, expands the SERVQUAL model with the "Economic Dimension", combines questionnaire surveys and in-depth interviews, and uses Nvivo for coding analysis of interview data to fill the above research gaps, providing a reference for the service quality improvement of international express enterprises.

2. Fedex Corporation and Logistics Service Overview

2.1. Fedex Corporation Profile

Fedex is an international express group. As a leading enterprise in global cross-border logistics solutions, with its global operational hub in Memphis, Tennessee, USA, it has built an intelligent supply chain system covering diversified businesses such as instant air freight, ground network optimization, and bulk special logistics. According to its 2023 Sustainability Report, the group has formed an "end-to-end" integrated service ecosystem through digital transformation, extending its reach into emerging areas such as e-commerce solutions and cross-border trade compliance management.

Notably, Fedex Group has established an industry-leading ESG governance framework, with all 28,000 global professional employees certified to the ISO 26000 Social Responsibility standard. Fedex's 2024 annual operational data shows the company consistently maintained a 99.3% safety operation certification compliance rate and has ranked first in the logistics industry in the Dow Jones Sustainability Index for five consecutive years. This practice of integrating ethical governance into strategic decision-making earned it the "Global Best Corporate Citizen" award from the International Business Ethics Institute.

2.2. Fedex Logistics Service Overview

Fedex possesses a vast global network capable of delivering to destinations worldwide. Fedex operates a global air and ground network, typically able to deliver time-critical shipments rapidly within one to two business days, ensuring on-time delivery, and featuring an "On-Time Delivery Guarantee." Whether in large cities or remote areas, the company can provide fast and reliable services. The company has achieved significant cost savings by integrating service contracts and utilizing external service contracts. Simultaneously, maximizing the use of rail transport, which currently accounts for 90% of freight volume. Furthermore, by reducing flight hours and optimizing the air network, the company has also effectively reduced air network costs.

Fedex has an experienced and well-trained team capable of maintaining efficiency and accuracy when handling various complex transportation needs. Whether documents, cargo, or special items, the company ensures items are transported safely to their destination. The company invests substantial resources in advanced technological facilities and systems to ensure transparency and security during transportation. Customers can track the status of shipments through online platforms and enjoy quick responses and problem-solving capabilities. Whether through inquiries on the online platform, or communication via phone and email, Fedex's customer service team consistently addresses customer questions with a friendly and professional attitude.

In summary, while Fedex Ltd. performs well overall in logistics services, it still faces some problems and challenges. Fedex's "Priority Delivery" service promises speed, punctuality, and reliability, but delays may occur in practice. For example, some consumers reported that after using the "Priority Delivery" service, goods were not delivered on time and they were not notified promptly. To address these issues, the company needs to continuously strengthen internal management, optimize service processes, improve service quality, reduce costs, and enhance employee training and management.

3. Investigation and Analysis of Fedex's Service Quality Status

3.1. Construction of Questionnaire and Design of Interviews Based on SERVQUAL Model

This study adopts the SERVQUAL model as its foundation, making appropriate modifications to construct a logistics service quality evaluation index system.

Interviews were conducted with internal employees, so the traditional five-dimensional model was reduced to three dimensions—Reliability, Responsiveness, and Tangibles—for design. As shown in Table 2 below, "Interview Design Indicator Hierarchy," an interview plan was formulated targeting key nodes of enterprise operations. Three core managers in the logistics chain were selected for in-depth dialogue: the Operations Director, Customer Service Supervisor, and Warehouse Operations Manager, aiming to reveal differences in quality management perceptions and opportunities for process optimization within the organization.

To ensure the scientificity and reproducibility of the interview research, the following details are supplemented.

Interview Outline Core Questions:For the "Responsiveness" dimension, the designed core questions include: (1) What is the current process for handling customer logistics complaints (e.g., damaged goods, lost goods)? Please describe the specific links and time limits. (2) How does the company ensure that customer service personnel can promptly respond to customer inquiries? Are there any specific response time standards? (3) In the face of emergency logistics incidents (e.g., transportation delays caused by force majeure), what emergency response mechanisms has the company established, and how effective are they? (4) How does the company collect and use customer feedback on the responsiveness of services to optimize the service process?

Interview Duration:The interview with the Operations Director lasted 90 minutes, the interview with the Customer Service Supervisor lasted 80 minutes, and the interview with the Warehouse Operations Manager lasted 75 minutes. All interviews were conducted in a one-on-one manner and recorded with the consent of the interviewees.
3. Interview Data Organization Method:After the interviews, the recording content was transcribed into text, and Nvivo 12.0 software was used for coding analysis. First, open coding was conducted to extract initial concepts from the interview text; then, axial coding was performed to classify and organize the initial concepts into categories with logical connections; finally, selective coding was carried out to construct the core category system, and the key viewpoints related to the research topics were extracted to provide support for the subsequent analysis of service quality problems.

Table 2. Questionnaire Design Indicator Hierarchy

Primary Indicator	Secondary Indicator	Primary Indicator	Secondary Indicator
Reliability	Goods delivered accurately and on time	Tangibles	Has modern service facilities
	Shows concern and helps when customers encounter difficulties		Service facilities are attractive
	The company is reliable		Transportation control
	Cargo integrity		Warehousing facilities
Responsiveness	Informs customers of the promised service time	Economy	Reasonable pricing
	Customer service		High value for money
	Employees are always willing to serve customers		Convenient and flexible payment methods
	Logistics processes are convenient and fast		Reasonable compensation for lost goods
Assurance	Employees are trustworthy	Empathy	The company provides personalized

			services for customers
	Employees are courteous		Employees understand customers' needs
	Service personnel have appropriate appearance and attire		The company prioritizes customers' interests

This survey questionnaire was constructed from three dimensions: First, explaining the purpose and use of the questionnaire to respondents; Second, investigating respondents' basic personal information, namely age, industry type, monthly income, and frequency of using Fedex transportation services; Finally, the service quality survey. The questionnaire content sets service quality as the primary indicator; it is divided into the five dimensions of the SERVQUAL model and the added "Economy" dimension based on practical considerations. These six dimensions—Tangibles, Reliability, Responsiveness, Assurance, Empathy, and Economy—are set as secondary indicators. Twenty-two specific influencing factors of service quality are designed as tertiary indicators to assess the current status of Fedex's logistics service quality.

The questionnaire survey adopted a simple random sampling method, and questionnaires were randomly distributed within Fedex's business service scope to ensure the relative independence of respondents. The sampling scope covered both Fedex's domestic logistics business and its cross-border logistics business in China, including customers in first-tier cities (Beijing, Shanghai, Guangzhou, Shenzhen), second-tier cities (Chengdu, Chongqing, Wuhan, Xi'an), as well as third-tier and lower-tier cities. This geographical coverage ensured, to a considerable extent, the representativeness of the sample. The final survey was conducted through an online questionnaire distributed via Wenjuanxing, resulting in 66 valid responses.

Table 3. Basic Information of Respondents

Name	Option	Frequency	Percentage (%)	Cumulative Percentage (%)
Age Group	18-25	2	3.03	3.03
	26-30	48	72.73	75.76
	31-40	9	13.64	89.39
	41-50	5	7.58	96.97
	51-60	2	3.03	100.00
Identity	Individual	55	83.33	83.33
	Enterprise	11	16.67	100.00
Monthly Income	CNY 4000~8000	3	4.55	4.55
	CNY 8000~15000	2	3.03	7.58

Range	CNY15000~30000	53	80.30	87.88
	Above CNY 30000	8	12.12	100.00
Total		66	100.0	100.0

To verify the scientific rigor of the questionnaire design and the reliability of the obtained data, reliability and validity tests were conducted.

Reliability Test: Cronbach's α coefficient was applied to examine the internal consistency of the questionnaire. The results indicated that the overall Cronbach's α was 0.823, exceeding the commonly accepted threshold of 0.7, suggesting strong internal consistency and high reliability. The Cronbach's α values for each dimension were as follows: Tangibles (0.785), Reliability (0.812), Responsiveness (0.798), Assurance (0.776), Empathy (0.763), and Economy (0.758), all greater than 0.7, demonstrating good reliability across all dimensions.

Validity Test: The Kaiser–Meyer–Olkin (KMO) test and Bartlett's sphericity test were conducted to assess the suitability of the dataset for factor analysis. The KMO value was 0.765, which is above the recommended minimum of 0.7, indicating that the data were suitable for factor analysis. Bartlett's sphericity test yielded a χ^2 value of 1256.342 with a p-value of $0.000 < 0.01$, demonstrating that the correlation matrix was not an identity matrix and confirming the appropriateness of factor analysis. In addition, content validity was evaluated through consultation with three logistics management experts and two senior Fedex managers. All experts agreed that the questionnaire items comprehensively reflected key aspects of Fedex's logistics service quality, indicating strong content validity.

The basic information of the questionnaires is shown in Table 3 below. Among the respondents, 55 were individual customers (83.33%), and 11 were corporate customers (16.67%). By age group: 2 respondents aged 18-25 (3.03%), 48 aged 26-30 (72.73% - the largest group), 9 aged 31-40 (13.64%), 5 aged 41-50 (7.58%), and 2 aged 51-60 (3.03%). By monthly income range: 3 respondents earning CNY 4000~8000 (4.55%), 2 earning CNY 8000~15000 (3.03%), 53 earning CNY 15000~30000 (80.30%), and 8 earning CNY 30000 and above (12.12%).

3.2. Reliability Analysis

In the increasingly competitive express industry, logistics timeliness, as a direct manifestation of service quality, directly impacts customer loyalty and brand reputation. Based on the characteristics of Fedex's customer base, this study focuses on the perceived differences in timeliness satisfaction between individual and corporate customers, aiming to reveal the relationship between customer identity attributes and service evaluation through chi-square tests. By quantitatively analyzing service experience consistency across different customer groups, it can verify the effectiveness of the company's service standardization implementation and provide data support for optimizing resource allocation and formulating differentiated service strategies, thereby uncovering the formation mechanism of the company's core competitiveness from the customer perspective.

Table 4. Cross-Tabulation Analysis of Delivery Timeliness Perception by Customer Type

Question	Name	Customer Identity (%)		Total	χ^2	p
		Individual	Enterprise			
Satisfaction with Fedex's cargo delivery timeliness	Very Satisfied	49(89.09)	9(81.82)	58(87.88)	1.655	0.437
	Satisfied	4(7.27)	2(18.18)	6(9.09)		
	Neutral	2(3.64)	0(0.00)	2(3.03)		
Total		55	11	66		

Using chi-square tests (cross-tabulation) to study the relationship between customer identity and perception of Fedex's cargo delivery timeliness, the data in Table 4 above shows: Among 55 individual customers, 49 were very satisfied (89.09%), 4 were satisfied (7.27%), and 2 were neutral (3.64%). Among 11 corporate customers, 9 were very satisfied (81.82%) and 2 were satisfied (18.18%). This shows that samples of different identities perceive Fedex's delivery timeliness consistently, with no significant difference.

This indicates that Fedex has a high level of standardization in service provision, allowing both individual and corporate customers to receive relatively consistent service experiences. Delivery timeliness, as a key indicator of express service, shows no significant difference in satisfaction, which is a manifestation of successful service standardization. It demonstrates that Fedex's service quality in delivery timeliness is widely recognized. Both individual and corporate customers express satisfaction with Fedex's delivery timeliness, further proving Fedex's competitiveness in the express service market.

3.3. Responsiveness Analysis

In the entire logistics service process, problem-solving efficiency directly impacts customer trust. This study focuses on Fedex's handling quality regarding damaged goods, lost goods, and complaint incidents. By comparing the satisfaction distribution of individual and corporate customers, it aims to reveal perceptual differences among different customer groups regarding the service recovery mechanism. Analyzing such data not only verifies the adaptability of the company's standardized service processes to different needs but also identifies potential shortcomings in service responsiveness. This provides a decision-making basis for optimizing the complaint handling mechanism and balancing resource investment priorities, thereby enhancing the refinement of customer relationship management while ensuring service quality.

Table 5. Cross-Tabulation of Responsiveness Issues by Customer Type

Question	Name	Customer Identity (%)		Total	χ^2
		Individual	Enterprise		
When you contact customer service	Generally resolved promptly	5(9.09)	6(54.55)	11(16.67)	13.697

regarding logistics issues, can they be resolved promptly?	Not resolved promptly	49(89.09)	5(45.45)	54(81.82)	
	Not resolved promptly	1(1.82)	0(0.00)	1(1.52)	
Total		55	11	66	
Satisfaction with the speed and outcome of the company's handling of issues like damage, loss, or your complaints?	Very Dissatisfied	1(1.82)	0(0.00)	1(1.52)	18.996
	Dissatisfied	1(1.82)	0(0.00)	1(1.52)	
	Neutral	2(3.64)	0(0.00)	2(3.03)	
	Satisfied	48(87.27)	5(45.45)	53(80.30)	
	Very Satisfied	3(5.45)	6(54.55)	9(13.64)	
Total		55	11	66	

From Table 5 above: Regarding prompt resolution of logistics issues via customer service: Among individuals, 49 (89.09%) said generally resolved promptly, 1 (1.82%) said not resolved promptly. Among enterprises, 5 (45.45%) said generally resolved promptly, 0 said not resolved promptly. Overall, 54 out of 66 (81.82%) said issues are generally resolved promptly.

Regarding satisfaction with handling speed and outcome for damage/loss/complaints: In the "Very Dissatisfied" and "Dissatisfied" options, only 1 individual selected each (low percentages). In the "Neutral" option, 2 individuals selected, no enterprises. In the "Satisfied" option, 48 individuals and 5 enterprises selected (highest percentage). In the "Very Satisfied" option, 3 individuals and 6 enterprises selected. Overall, "Satisfied" and "Very Satisfied" had the highest percentages, 80.30% and 13.64% respectively, indicating most customers are satisfied or very satisfied with the speed and outcome of problem handling.

Comparing differences: Samples of different identity customers show significant differences ($p < 0.01$ level) in prompt resolution of logistics issues via customer service, with corporate customers' overall satisfaction higher than individual customers. Regarding satisfaction with problem handling speed, individual customers' overall satisfaction is higher than corporate customers', also showing significant differences ($p < 0.01$ level).

3.4. Tangibles Analysis

In logistics service quality assessment, tangibles are manifested not only in hardware facilities but also throughout the standardized presentation of personnel service behaviors. This study focuses on the contradictory association between Fedex's customer service script training system and the service attitude of last-mile delivery personnel. By comparing internal management measures, such as the customer service script optimization mechanism, with external customer perception data, it analyzes the internal-external cognitive differences in such tangible service elements. This can verify the rationality of the company's training resource allocation and expose

potential loopholes in last-mile personnel management of the service chain, providing an entry point for building a full-process service quality monitoring system.

Regarding Tangibles, based on an interview with an internal Customer Service Manager: "The company provides unified service script training to customer service personnel. These scripts cover all aspects of customer service, including greetings, inquiries about needs, answering questions, handling complaints, etc. Through unified scripts, we ensure that customer service personnel maintain a professional, courteous, and consistent attitude when communicating with customers. Simultaneously, based on customer feedback and actual needs, we continuously optimize and improve service scripts. For uncovered scenarios, we regularly sort and supplement scripts to ensure customer service personnel can answer customer questions comprehensively and accurately."

To supplement the specific manifestations of couriers' poor attitudes and make the conclusion more convincing, the following content and Table 6 are added: Through the analysis of the open-ended questions in the questionnaire and the in-depth interviews with some customers, the specific manifestations of couriers' poor attitudes are summarized into four categories: (1) Rigid communication: Couriers only simply inform customers of the delivery time and location, and are unwilling to answer customers' additional inquiries (e.g., the specific arrival time of the goods, the reasons for the delay). (2) No explanation for delivery delays: When the goods are delivered late, couriers do not take the initiative to explain the reasons for the delay to customers, and even shirk responsibility when customers inquire. (3) Unfriendly service attitude: Couriers use impolite language when communicating with customers, and have impatient behaviors (e.g., hanging up the phone directly, speaking loudly). (4) Negligence in cargo handling: Couriers handle the goods roughly during delivery, and do not care about customers' concerns about the integrity of the goods.

Table 6. Frequency Statistics on Poor Courier Attitude

Name	Option	Frequency	Percentage (%)	Cumulative Percentage (%)
Courier attitude poor	Not Selected	16	24.24	24.24
	Selected	50	75.76	100.00
Total		66	100.0	100.0

However, according to the survey questionnaire, as shown in Table 6 above, among 66 respondents, 50 (75.76%) perceived courier attitude as poor, while 16 (24.24%) did not select this option. This result contradicts the Customer Service Manager's interview statement.

3.5. Assurance Analysis

Amidst the intensifying homogenized competition in the express industry, accurately identifying core customer demands is key to building differentiated service advantages. Corporate customers pay more attention to cost control and fulfillment efficiency, while individual customers focus more on service reliability and experiential perception. Revealing this demand heterogeneity not only verifies the applicability of market segmentation theory but also provides

empirical evidence for resolving the conflict between standardized service and personalized needs. This helps enterprises restructure resource allocation logic, design hierarchical service systems, and ultimately achieve the dual goals of customer value creation and operational efficiency improvement.

As shown in Table 7 above, using chi-square tests (cross-tabulation) to study the most important factors when choosing express services by different identity customers (the table covers five categories: Price, Speed, Reliability, Coverage, Customer Service): Price: The proportion of enterprises selecting this as important (36.36%) is significantly lower than individuals (89.09%). Speed: The proportion of enterprises selecting this as important (45.45%) is significantly lower than individuals (90.91%). Reliability: The proportion of individuals selecting this as important (10.91%) is significantly lower than enterprises (90.91%). Coverage: The proportion of individuals selecting this as important (10.91%) is significantly lower than enterprises (90.91%). Customer Service: The proportion of individuals selecting this as important (3.64%) is significantly lower than enterprises (54.55%).

Samples of different customer types show significant differences for all factors—Price, Speed, Reliability, Coverage, and Customer Service. Therefore, different service standards should be adopted for different customer categories.

Table 7. Most Important Factors When Choosing Express Service by Customer Type

Question	Name	Customer Identity (%)		Total	χ^2
		Individual	Enterprise		
Price	Not Selected	6(10.91)	7(63.64)	13(19.70)	16.112
	Selected	49(89.09)	4(36.36)	53(80.30)	
Total		55	11	66	
Speed	Not Selected	5(9.09)	6(54.55)	11(16.67)	13.636
	Selected	50(90.91)	5(45.45)	55(83.33)	
Total		55	11	66	
Reliability	Not Selected	49(89.09)	1(9.09)	50(75.76)	31.944
	Selected	6(10.91)	10(90.91)	16(24.24)	
Total		55	11	66	

Coverage	Not Selected	49(89.09)	1(9.09)	50(75.76)	31.944
	Selected	6(10.91)	10(90.91)	16(24.24)	
Total		55	11	66	
Customer Service	Not Selected	53 (96.36)	5 (45.45)	58 (87.88)	22.303
	Selected	2 (3.64)	6 (54.55)	8 (12.12)	
Total		55	11	66	

3.6. Empathy Analysis

Under the trend of service scenario segmentation in the logistics industry, the precise matching of customer needs with transportation solutions has become key for enterprises to enhance service premium capabilities. Exploring such association maps can provide data support for enterprises to identify high-value service touchpoints and promote precision in service product innovation and resource allocation for transportation capacity, ultimately achieving a dual breakthrough in customer experience upgrade and operational cost optimization.

Table 8. Service Items Attracting Customers with Different Needs

	A. Long-distance shipping	B. Purchasing valuable items	C. Shipping valuable items	D. Purchasing foreign products
Door-to-Door Pickup	-0.032	0.859	-0.803	-0.141
Same-City Next-Day	-0.277	-0.098	0.141	0.566
Dedicated Vehicle/Aircraft	-0.027	0.651	-0.690	0.069
TNT (Dedicated) Delivery	-0.036	0.487	-0.308	-0.109
Service Customization	0.055	-0.293	0.424	-0.000
Not Interested, Still Not Choose Fedex	-0.032	-0.055	0.080	0.080

From Table 8 above, analyzing the service items attracting customers with different needs: Long-distance shipping : Shows a significant negative correlation with Same-City Next-Day (-0.277). Customers value Service Customization most (0.055), while correlations with other services are negative, indicating a need for door-to-door customized service. Purchasing valuable items: Customers value Door-to-Door Pickup (0.859), Dedicated Vehicle/Aircraft (0.651), and TNT Delivery (0.487) most, with Door-to-Door Pickup being the highest priority. Correlations with other services are negative. Shipping valuable items: Customers value Service Customization (0.424), Same-City Next-Day (0.141), and Not Interested (0.080) most, with Service Customization being the highest priority. Purchasing foreign products: Customers value Same-City Next-Day (0.566), Dedicated Vehicle/Aircraft (0.069), and Not Interested (0.080) most, with Same-City Next-Day being the highest priority.

Summary: Samples of customers with different logistics needs show significant differences for all services—Door-to-Door Pickup, Same-City Next-Day, Dedicated Vehicle/Aircraft Delivery, TNT (Dedicated) Delivery, Service Customization. Therefore, different service standards should be adopted for customers based on cargo type, quantity, timeliness requirements, and other influencing factors.

3.7. Economy Analysis

The Pearson correlation coefficient measures the linear correlation between two variables (range: -1 to 1), and visualization can intuitively present this relationship.

As shown in Figure 1 below, "Statistical Chart of Economy Indicator Scores by Different Needs," it lists scores for four different needs (Long-distance shipping, Purchasing valuable items, Shipping valuable items, Purchasing foreign products) across four dimensions: Reasonable Pricing, High Value for Money, Convenient and Flexible Payment Methods, Reasonable Compensation for Lost Goods. Scores use a quantified standard; specific values represent customer satisfaction or evaluation in these aspects.

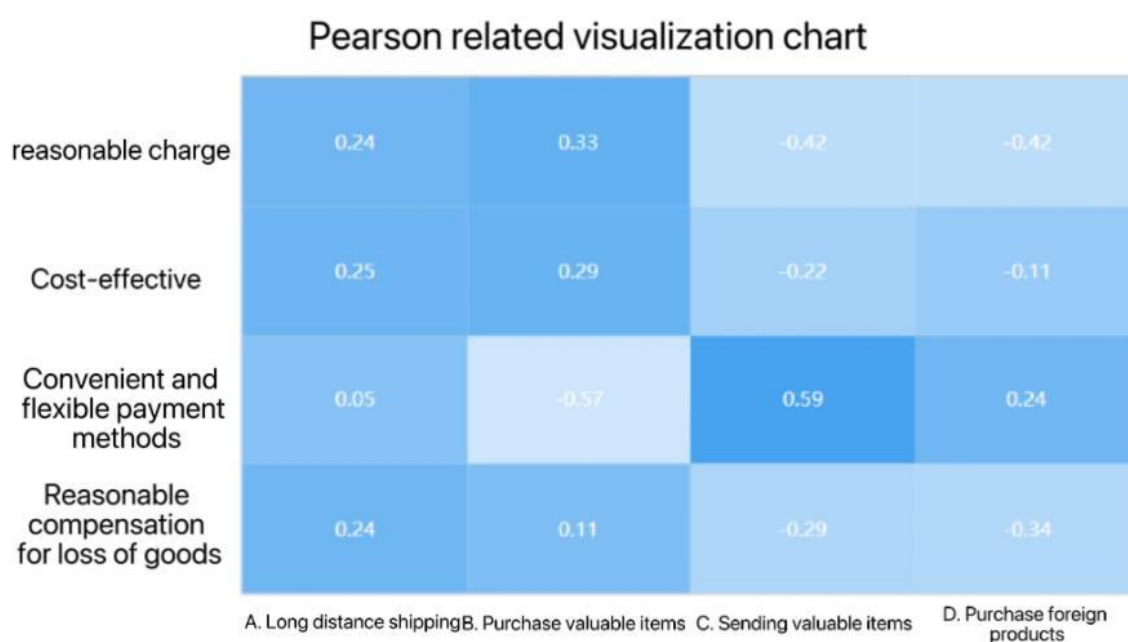


Figure 1. Statistical Chart of Economy Indicator Scores by Different Needs

Reasonable Pricing:Scores are higher for Long-distance shipping and Purchasing valuable items (0.242, 0.335), indicating customers find pricing relatively reasonable for these services. Scores are lower for Shipping valuable items and Purchasing foreign products, suggesting dissatisfaction. **High Value for Money:**Scores remain higher for Long-distance shipping and Purchasing valuable items (0.248, 0.293), indicating perceived good value. Shipping valuable items scores low (-0.217), indicating poor perceived value. Purchasing foreign products also scores low (-0.113), but slightly better. **Convenient and Flexible Payment:**Scores show significant contrast for Shipping valuable items and Purchasing foreign products. Shipping valuable items scores high (0.590), indicating high satisfaction. Purchasing foreign products scores very low (-0.570), indicating strong dissatisfaction. Long-distance shipping scores low (0.046), suggesting room for improvement. Purchasing valuable items is moderate (0.236). **Reasonable Compensation for Lost Goods:**Scores remain higher for Long-distance shipping and Purchasing valuable items (0.237, 0.111), indicating relative satisfaction. Shipping valuable items and Purchasing foreign products score lower (-0.295, -0.339), indicating dissatisfaction.

Samples of customers with different logistics needs show significant differences in scores for Reasonable Pricing, High Value for Money, Convenient and Flexible Payment Methods, and Reasonable Compensation for Lost Goods. Therefore, for customers with different cargo transportation needs, clear pricing standards should be established to allow flexible calculation adapted to different types of goods, ensuring standardization. Payment methods should also become increasingly informatized and networked, offering more flexibility and convenience, enhancing overall efficiency, improving logistics rationality, and thereby increasing customer satisfaction with logistics service quality.

4. Problems and Cause Analysis of Fedex's Logistics Service Quality

4.1. Customer Differentiation and Service Training Issues

4.1.1. Undifferentiated Customer Service

Through the analysis of satisfaction with Fedex's delivery timeliness in the Reliability analysis, it can be seen that individual customers pay more attention to the immediacy and convenience of service, valuing the overall experience and personalized needs. Therefore, their satisfaction with prompt problem resolution may be more sensitive. Corporate customers value the overall quality of service and problem-solving efficiency more, having higher expectations for speed and reliability because they often rely on these services to maintain business operations. They might be more tolerant of occasional delays, potentially understanding the complexity and uncertainty of the logistics industry better.

4.1.2. Inadequate Business Training System Management

In the Tangibles analysis, the contradictory association between Fedex's customer service script training system and the service attitude of last-mile delivery personnel exposed insufficient training efforts by the company. Training has not been reasonably implemented and managed,

leading to lower customer service satisfaction. The service scripts mentioned in the Customer Service Manager interview may focus more on communication scenarios within customer service centers, failing to fully consider customer needs and expectations during the courier delivery process. Courier personnel may face more immediate and emergent communication scenarios, requiring more flexible and personalized coping strategies.

4.2. Personalized Service Issues

4.2.1. Insufficient Insight into Customer Needs

Through the Assurance analysis and the different needs identified in the Empathy analysis, regarding Fedex's handling quality for damaged goods, lost goods, and complaints, comparing the satisfaction distribution of individual and corporate customers reveals different focus points for customers with different transportation needs. Only by clarifying these can comprehensive and high-quality services be provided to customers. Differentiated service plans can be designed for different industries (e.g., pharmaceutical cold chain, auto parts).

4.2.2. Weak Technical Support Capabilities

Lack of data-driven approaches: Failure to build customer profiles and demand forecasting models, relying on manual experience for solution formulation, leading to low customization efficiency. Furthermore, insufficient smart tools: Lack of intelligent scheduling systems (e.g., dynamic route planning), automated equipment (e.g., flexible sorting lines), making it difficult to efficiently handle small-batch, multi-frequency orders.

4.3. Pricing and Cost Issues

4.3.1. Imbalance Between Revenue and Cost

Due to the imbalance between revenue and cost, Fedex's overall prices remain high. While it can meet consumer demand, the Assurance analysis shows customer satisfaction with pricing is not very high. This indicates the company needs practical countermeasures to reduce logistics operating costs, thereby lowering overall prices, increasing consumer satisfaction, enhancing the company's market competitiveness in pricing, and consequently improving operating profits.

4.3.2. Loss of Price-Sensitive Customers

Through the Economy analysis, scores for different needs (Long-distance shipping, Purchasing valuable items, Shipping valuable items, Purchasing foreign products) across the four dimensions (Reasonable Pricing, High Value for Money, Convenient Payment, Reasonable Compensation) reveal an inability to attract price-sensitive customers through promotional methods like time-limited discounts or new customer offers, causing them to switch to competitors offering low-price strategies. Failure to promote high-margin value-added services (e.g., cash on delivery, custom packaging) through promotions leads to a single income source and limited profit margins.

5. Suggestions for Improving Fedex's Logistics Service Quality

5.1. Provide Differentiated Services Based on Different Customer Needs

5.1.1. Establish a Deep Customer Needs Analysis System

For individual customers, enhance service immediacy and convenience, ensure problems are resolved quickly, and improve customer satisfaction. For corporate customers, besides focusing on overall service quality, emphasize service reliability and efficiency, establishing more professional customer service teams and response mechanisms to meet their high requirements.

Enterprises can capture full supply chain link data through IoT devices, ERP integration, and customer behavior analysis platforms to generate customer demand profiles (e.g., order fluctuation patterns, service sensitivity points). Design standardized module libraries tailored to industries like pharmaceuticals, fresh produce, and e-commerce (e.g., temperature control, customs clearance, reverse logistics), supporting an agile customization model of "modular combination + fine-tuning".

Leveraging the advantages of Fedex's global air hub network, the company can develop a customized "cross-border logistics + integrated customs clearance" service package to meet the high-efficiency cross-border transportation needs of corporate customers. Specifically, the service package consists of the following components:

(1) Pre-customs clearance consultation: Professional customs compliance consultants provide tailored customs clearance plans based on cargo type and the customs policies of the destination country, ensuring accurate and compliant documentation in advance.

(2) Fast-track customs clearance channels: In cooperation with major customs authorities worldwide, Fedex can establish exclusive customs clearance channels for corporate customers, reducing clearance time by approximately 30%–50%.

(3) Real-time customs clearance tracking: A dedicated tracking system is established to allow corporate customers to monitor customs clearance progress in real time via the official Fedex website or mobile application, thereby improving transparency and control of logistics operations.

(4) Post-clearance support: Value-added services—including warehousing, distribution, and related logistics solutions—are provided after customs clearance to help corporate customers enhance supply chain efficiency across the entire logistics cycle.

5.1.2. Improve Training and Assessment Mechanisms

Extend unified service script training to frontline courier personnel, ensuring they maintain a professional, courteous, and consistent attitude when communicating with customers. Design more practical and flexible training courses tailored to the specific work environment and needs of courier personnel. Establish effective supervision and assessment mechanisms to ensure training outcomes are implemented in actual work. Simultaneously, set up clear reward and punishment mechanisms to incentivize couriers to improve service attitudes. Utilize online learning platforms, VR simulation training, etc., to enhance training flexibility.

5.2. Develop Comprehensive Personalized Services

5.2.1. Offer Customized Services

Provide customized services based on customer needs and preferences, such as specific packaging, timed delivery, etc., to improve customer satisfaction and increase loyalty. Establish

feedback mechanisms to promptly collect and process customer opinions and suggestions, continuously improving service quality, satisfaction, and loyalty.

5.2.2. Expand Value-Added Services

Provide warehousing and inventory management services to help customers reduce inventory costs and increase turnover rates. Offer financial and insurance services related to express delivery, such as freight advance payment, cargo insurance, etc., to increase customer trust and dependence.

5.2.3. Introduce Intelligent Technologies

Introduce AI algorithms to optimize customized solutions, such as using historical data-based cost-timeliness balance models to automatically generate multiple optional solutions for customers. Deploy flexible equipment like AGVs and collaborative robots to support rapid sorting and packaging customization for small-batch orders. Introduce automated sorting systems, intelligent scheduling systems, and other technical means to improve express processing and distribution efficiency and reduce operating costs. Optimize transportation routes: Use big data analysis to optimize routes and distribution plans, reducing unnecessary mileage and waiting time, improving transportation efficiency.

5.3. Reasonably Adjust Pricing Strategy to Enhance Market Competitiveness

5.3.1. Adjust Pricing Strategy, Enhance Value for Money

Develop reasonable pricing strategies based on the characteristics of different services and customer needs, ensuring price matches service quality. Strengthen sensitivity analysis of pricing and adjust prices timely to attract more customers. Simultaneously, provide multiple payment methods and convenient payment processes to enhance the payment experience. Transparent pricing system: Ensure the transparency and fairness of the pricing system, avoid hidden charges and unnecessary fees, enabling customers to clearly understand service costs. Differentiated pricing: Develop differentiated pricing strategies based on customer express needs, weight, volume, transportation distance, etc., to meet different customer budgets and needs. Regular promotional activities, such as during 618, Double 11, and the company's own special event days, can effectively increase satisfaction among price-sensitive customers and boost their purchasing power.

5.3.2. Strengthen Internal Cost Control

Refined management: Reduce various operating costs, such as procurement costs, labor costs, and transportation costs, through refined management, improving overall economic efficiency. Energy saving and emission reduction: Adopt environmentally friendly materials and energy-saving technologies to reduce energy consumption and emissions, minimizing environmental impact while lowering operating costs. By reducing operating costs, the market price for consumers can be lowered, effectively increasing the purchase intention of price-sensitive customers.

6. Conclusions and Outlook

6.1. Conclusions

Through an in-depth investigation and research on Fedex's logistics service quality, the following conclusions can be drawn: Fedex possesses a global network and efficient distribution system, enabling it to provide fast and reliable express services to customers. Among the multiple dimensions covered by the SERVQUAL model, Fedex performs particularly well in Reliability. Both individual and corporate customers gave high ratings for the timeliness of cargo delivery. This indicates that Fedex has a high level of standardization in service provision, ensuring relatively consistent service experiences for customers of different identities. However, Fedex still faces challenges in the Economy dimension. Some customers perceive its pricing as high, affecting the perception of value for money. Although Fedex has competitive advantages like a well-developed logistics network and efficient delivery speed, it still needs to make efforts in adapting to market price changes and optimizing cost structures to maintain its competitiveness in terms of Economy.

6.2. Limitations and Outlook

6.2.1. Limitations of the Study

(1) Small Sample Size: This study collected only 66 valid questionnaires, which constitutes a relatively small sample size. Although simple random sampling was adopted and the sample covered diverse regions and customer types, the limited sample size may still affect the representativeness and generalizability of the research findings. For instance, in the analysis of customer demand differences, only 11 respondents were corporate customers, resulting in insufficient statistical power and potentially failing to fully reflect the actual logistics needs of corporate clients.

(2) Sample Structure Bias: Within the sample structure, individual customers accounted for 83.33%, while corporate customers accounted for only 16.67%. The low proportion of corporate respondents may cause the research results to lean more toward the needs and evaluations of individual customers, thereby limiting the ability to accurately reflect the service quality challenges Fedex faces in the corporate customer segment. Additionally, the age distribution of respondents was heavily concentrated in the 26–30 age group (72.73%), while other age groups were underrepresented. This imbalance may also affect the comprehensiveness of the research conclusions.

6.2.2. Future Research Directions

(1) Expand Sample Size: Future studies should expand the sample size—preferably collecting at least 200 valid questionnaires—to enhance the representativeness and generalizability of research outcomes. In addition, adopting stratified sampling is recommended to ensure that the proportions of different customer types (individual vs. corporate), regions, and age groups are consistent with Fedex's actual customer structure, thereby reducing sample structure bias.

(2) Deepen Research on Corporate Customers: Given that corporate customers constitute an important customer group for Fedex, subsequent research could focus specifically on this segment.

In-depth interviews with additional corporate clients and Fedex's corporate service personnel may help analyze the detailed needs and service pain points of business clients. Furthermore, differentiated research into logistics service needs across industries—such as manufacturing, e-commerce, and pharmaceuticals—would support the development of more targeted service quality improvement strategies for Fedex.

(3) Conduct Longitudinal Tracking Research: This study is cross-sectional in nature and can only capture the status of Fedex's service quality at a single point in time. Future research may adopt a longitudinal approach by conducting periodic surveys of Fedex customers to track changes in customer satisfaction and service quality issues over time. Such analysis can help evaluate the effectiveness of Fedex's service improvement initiatives and provide dynamic and comprehensive insights for long-term service quality management.

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