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Research on Service Quality Improvement of Franchised End Logistics Outlets Based on SERVQUAL

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Abstract: As an effective solution to the "last mile" problem of logistics transportation, express terminal network has shown a rapid development trend in recent years. The franchise production is a main operation mode of the end express outlets. By fully mobilizing the enthusiasm of the franchise outlets, the service scope of express enterprises is effectively expanded. However, the problems of loose management and uneven service quality are prevalent in this kind of franchise outlets, which makes the express terminal service become one of the bottlenecks restricting the healthy development of the industry. Based on this, this paper improved the SERVQUAL model combined with the actual situation of the end express outlets of the franchise system, and designed the questionnaire based on it, sorted out and analyzed the survey data by using factor analysis and entropy weight method, and finally found out the shortcomings in the service process of the end express outlets according to the results, and put forward targeted solutions.

Keywords: Logistics outlets, SERVQUAL, Service quality, Enhancement, Strategies

1. Introduction

The express delivery industry plays a significant role in connecting production and consumption in the national economic cycle. According to the operation of the postal industry, in 2023, China's express delivery business volume reached a cumulative total of 132.07 billion pieces, an increase of 19.4% year-on-year, with the total express volume accounting for more than sixty percent of the global total. Against this backdrop, franchised terminal express delivery networks, as a crucial link in the express transportation system, have experienced rapid development due to their effective alleviation of the pressure on the "last mile" of transportation, becoming the focus of development for major enterprises. However, with the intensification of market competition and the rising expectations of consumer services, issues such as the loose management and inconsistent service quality of franchise networks have begun to emerge. Effectively improving the service quality of franchised terminal express delivery networks has become an urgent issue to be addressed within the industry. As a consequence, on the basis of existing research, this paper systematically evaluates and analyzes the service quality of franchised express outlets by applying SERVQUAL model, so as to explore effective service quality improvement strategies, so as to improve the service quality of franchised express outlets and promote the healthy development of the terminal logistics industry.

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2. Research Status at Home and Abroad

Since Parasuraman, Zeithaml and Berry proposed the SERVQUAL model in 1985 ,service quality research has made remarkable progress [1]. Herstein et al. believes that the difference between consumer perception and expectation is actually carried out under the premise of customer perception [2]. Shen et al. pointed out that if the customer's service to the company actually exceeds the expectation, it can be judged as high service quality; or else, it is poor [3]. Hendayani et al. believe that service quality should exceed customer expectations, and the company's service should be improved in many aspects [4].

The quality of logistics terminal service directly affects the image and future development of express delivery enterprises. At present, a small number of scholars have conducted special studies on the improvement of logistics service. Banomyong et al. determined the key attributes of freight logistics service quality based on SERVQUAL model and explored the impact of these attributes on shippers' selection of third-party logistics service providers [5]. Gulc made a detailed introduction to SERVQUAL model and SERVPERF model, two service quality evaluation models, and believed that both models could evaluate logistics service quality well [6]. Meanwhile, in China, Wei Qiyang analyzed the factors affecting the service quality of crowdsourcing logistics in combination with its characteristics, built an evaluation index system, and established a comprehensive evaluation model based on the entropy weight-fuzzy comprehensive evaluation method [7].

To sum up, in the field of logistics services, domestic and foreign scholars have conducted a large number of and sufficient studies, but most scholars focus on service evaluation of logistics enterprises, and only research on service improvement of franchising terminal express shop is relatively few. As a result, this paper is based on SERVQUAL model and combined with the characteristics of franchising terminal express outlets. The service index is constructed, and factor analysis and entropy weight method are used to calculate the index weight in order to get effective results.

3. Construction of Service Quality Evaluation Model for Express Terminal Points

3.1. Model Overview

The SERVQUAL model is a widely used service quality evaluation tool in the service industry, constructed based on the " service quality gap model " and total quality management theory, combined with the actual situation of the evaluation subject. It evaluates service quality by measuring the gap between consumer expectations and perceived actuality. The model primarily comprises five dimensions: tangibility, reliability, responsiveness, assurance, and empathy. Further to this, each dimension is further broken down into more detailed issues based on specific scenarios. In the end, the service quality evaluation scores of the evaluation subjects are obtained through the collection and analysis of questionnaires. The obtained SERVQUAL scores are then equal to the difference between perceived actual scores and expected scores.

3.2. Evaluation index selection

This paper refers to SERVQUAL model, combined with relevant policies and regulations of the express industry and the development status of express terminal outlets, A service evaluation model was established, which was composed of six first-level indexes including Tangibles, Empathy, Reliability, Responsiveness, Assurance, and Joining cooperation, and 22 second-level indexes. Specific secondary indicators are shown in the following table (Table 1).

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Table 1: Modified service quality scale of terminal express outlets based on SERVQUAL model.

Primary indicator	Specific indicators (secondary indicators)
(T) Tangibles	T1 : perfection of service facilities.
	T2 : The network environment is clean.
	T3 : Employee image specification.
	T4 : The network is conveniently located.
(E) Empathy	E1 : Convenience during business hours.
	E2 : Network personalized service.
	E3 : Protection of Personal information.
	E4 : Customer interests come first.
(D) Reliability	D1 : Service accuracy.
	D2 : Whether violent sorting exists in the network.
	D3 : Timely resolution of lost goods.
	D4 : Customer needs to solve the quality.
(R) Responsiveness	R1 : Multi-channel service response.
	R2 : Timely resolution of customer complaints.
	R3 : Timely response to cargo damage disputes.
	R4 : High pick-up and delivery efficiency and short waiting time.
(G) Assurance	G1 : The staff of the network are reliable and have a good attitude.
	G2 : indicates the network monitoring coverage.
	G3 : High transparency of shipping charges.
(J) Joining cooperation	J1 : The enthusiasm of joining outlets to participate in brand marketing.
	J2 : Brand and service standardization implementation.
	J3 : Degree of collaboration and communication with brand outlets.

4. Analysis of survey results on service quality of outlets

4.1. Questionnaire design and distribution

This paper mainly collected data by sending questionnaires. Before the formal questionnaire survey, we conducted a preliminary survey in a certain range to ensure the rationality and validity of questions and options. This questionnaire is mainly designed according to the revised scale, which mainly includes three parts: basic situation, service expectation and service perception. The questionnaire quantifies service expectation and perception using a five-point Likert scale, which can be freely selected from 1 to 5 points. A total of 281 questionnaires were published online in this survey, and 267 valid questionnaires were finally recovered, with an effective rate of 95%, after excluding unqualified questionnaires such as contradictory answers and obvious failure to fill in seriously.

4.2. Analysis of survey data

4.2.1. Reliability test and validity test

The core of reliability test is to examine the internal consistency of the scale. If the reliability coefficient is below 0.7, it indicates that the reliability is not too high and the internal consistency between the projects is not good; A reliability coefficient of 0.9 or above indicates that the internal consistency between the projects is very good. According to the calculation, the overall consistency of the scale reaches 0.930, which is far greater than 0.7, indicating that the internal consistency is good and the reliability is good. Validity test needs to further test the accuracy and validity of the data

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results, and investigate whether each item plays an important role in the scale. In this validity test, KMO value and Barlet spherical test value were used for judgment and analysis. According to the results, the overall KMO value was 0.929 > 0.6, sig. With an index of 0.000, it can be seen that it has passed the test of 5% significance, indicating that the questionnaire has a high validity and can provide strong support for the analysis of service quality of express outlets at the end of the franchise system.

4.2.2. Basic situation analysis

After obtaining the data, this paper used spss software to conduct descriptive statistical analysis of the questionnaire results. It can be seen that among the respondents, males accounted for 41.95% and females accounted for 58.05%. The proportion of females was slightly higher than that of males. And the age is relatively concentrated in 26 ~ 40 years old, accounting for 58.42% of the total, followed by only 4% and 12.73% of the monthly income of less than 1000 yuan and more than 8000 yuan, 1000 to 3000 yuan and 3000 to 8000 yuan accounted for 41.57% and 44.19%, respectively.

4.3. Service quality evaluation

4.3.1. Evaluation index weight calculation

First of all, whether the research data is suitable for factor analysis is analyzed. As can be seen from the above, the KMO value is 0.929, greater than 0.6, meeting the prerequisite requirements of factor analysis, which means that the data can be used for factor analysis research. And the data passed the Bartlett sphericity test ($p < 0.05$), indicating that the research data was suitable for factor analysis.

(1) Weight calculation of first-level indicators: Through principal component analysis, the number of principal components was set as 6, the cumulative variance explanation rate after rotation was 61.26%, and the contribution rates of each principal component factor were 12.2%, 11.2%, 10.3%, 10.2% , 10.1% , and 7.4% , indicating that the results of factor extraction were acceptable. The last, this paper normalized the variance interpretation rate obtained, and obtained the first-order index weights as Tangibles (T): 16.397%, Empathy (E): 16.777%, Reliability (D) : 19.838% , Responsiveness (R) : 18.248% , Assurance (G) : 16.61% , Joining cooperation (J) : 12.13%. It can be seen that reliability is most valued by consumers, followed by responsiveness.

(2) Weight calculation of secondary indicators: The purpose of the above factor analysis is to judge the relationship between the factors and the measured items and delete the indicators that do not meet the analysis. Next, the six dimensions will be described. Concurrently, the entropy method is used to calculate the weight of the secondary index to obtain the weight, and the internal weight of the index is calculated according to the primary index. As shown in Table 2, where W(i) is the internal weight of first-level indicators, W(j) is the weight of first-level indicators, and w(i)*w(j) is the overall weight.

4.3.2. SERVQUAL model analysis of service quality of terminal express outlets

Through statistical analysis of 267 questionnaires, the Average service expectation (ASE), Average Service Perceived (ASP), expectation perceived difference (GAP) and service perceived gap mean (ASP - ASE) of 22 secondary indicators can be obtained as shown in the following table 2.

Combined with the tables 2, it is evident that the average service expectation of the end express outlets within the franchise system generally exceeds the average service perception. This indicates a general failure to meet customer expectations, highlighting significant room for improvement in the service quality of these outlets. In terms of dimension weighting, D > R > E > G > T > J , indicating a particular emphasis placed by survey respondents on reliability and responsiveness at franchise express terminal outlets. Within the reliability dimension, both " service accuracy " and " whether there is violent sorting in the network " hold substantial weight as level 1 indicators, with an expected

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perceived difference for " whether there is violent sorting in the network " significantly higher than other indicators at 0.4. And this underscores consumers' high regard for parcel handling accuracy and security in express delivery services. Under the first level of responsiveness," timely resolution of customer complaints " carries significant weight as a level 1 indicator, reflecting consumers' strong emphasis on prompt feedback and issue resolution within express delivery services. Within empathy, consumer prioritization holds relative importance to personal information protection as indicated by internal weights. This highlights consumer concern for personalized service and privacy protection within courier services. The reliability index places highest weight on " reliable quality and good attitude of network employees ", emphasizing consumer demand for professionalism and positive attitudes from express delivery personnel to build trust and improve service quality. Tangibility index shows close weights among three indicators with slight prominence given to " employee image standard ", demonstrating consumer expectations regarding service environment and external image of personnel. Under the first-level indicators of Joining cooperation, the overall weight of " the enthusiasm of franchisees to participate in brand marketing " and " brand and service standardization implementation " is the highest, which means that in improving the service quality of express end outlets, strengthening brand marketing cooperation and implementation of standardization is critical.

Table 2: Calculation table of service perception and expected mean value.

Primary index	Index	W(i)	W(i) * W(j)	ASE	ASP	GAP	ASP - ASE
(T) Tangibles	T1	0.182	0.030	3.75	3.36	-0.39	-0.3175
	T2	0.272	0.045	3.55	3.19	-0.36	
	T3	0.286	0.047	3.41	3.13	-0.28	
	T4	0.261	0.043	3.48	3.24	-0.24	
(E) Empathy	E1	0.235	0.039	3.54	3.23	-0.31	-0.3225
	E2	0.245	0.041	3.56	3.22	-0.34	
	E3	0.248	0.042	3.49	3.15	-0.34	
	E4	0.272	0.046	3.5	3.2	-0.3	
(D) Reliability	D1	0.262	0.052	3.55	3.26	-0.29	-0.3275
	D2	0.253	0.050	3.54	3.14	-0.4	
	D3	0.241	0.048	3.5	3.25	-0.25	
	D4	0.245	0.049	3.47	3.1	-0.37	
(R) Responsiveness	R1	0.257	0.047	3.68	3.39	-0.29	-0.2825
	R2	0.262	0.048	3.61	3.34	-0.27	
	R3	0.242	0.044	3.56	3.31	-0.25	
	R4	0.239	0.044	3.6	3.28	-0.32	
(G) Assurance	G1	0.367	0.061	3.61	3.23	-0.38	-0.3167
	G2	0.299	0.050	3.53	3.2	-0.33	
	G4	0.334	0.055	3.45	3.2	-0.24	
(J) Joining cooperation	J1	0.341	0.041	3.57	3.28	-0.29	-0.2733
	J2	0.320	0.039	3.45	3.21	-0.24	
	J3	0.340	0.041	3.5	3.21	-0.29	

4.4. Service quality optimization suggestions

1. Actively introduce artificial intelligence assistance to strengthen the construction of network performance evaluation system. In real life, violent sorting behavior occurs frequently, which not only brings losses to consumers, but also damages the image of the express brand. For that reason,

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enterprises can actively introduce violent sorting automatic identification technology to monitor the end outlets, and at the same time incorporate improper behavior into the performance evaluation of the outlets, so as to achieve the purpose of reducing package damage, so as to improve the service level of the franchised end outlets and further improve the corporate image.

2. Improve the professional quality and service awareness of network employees. The service attitude of the end outlets directly affects the service experience of consumers. As a result, enterprises should actively join the franchise outlets regularly organize service awareness, professional ethics and skills training, and establish an incentive mechanism, through the establishment of service quality rewards and other ways to stimulate employees' service enthusiasm and professional honor, so as to improve the overall service quality of the franchise outlets.

3. Improve the enterprise franchise management system, refuse to penalty management. Strengthen the supervision and guidance of terminal outlets, and establish perfect service standards. Enterprises should do a good job of communication with franchisees, understand the problems in their daily operations, and put forward feasible suggestions for this, to jointly find solutions to problems, to maintain effective communication between the two sides of the franchisee, in order to stimulate the enthusiasm of employees, and then improve the efficiency of the entire enterprise.

5. Conclusion

The terminal express network is the key link between express enterprises and consumers, and its service quality directly affects the brand image and market competitiveness of enterprises. Based on the exploration of the service quality of terminal express outlets, combined with the actual situation, this paper innovates on the existing SEVQUAL model to establish an index system for the service quality evaluation of terminal express outlets in line with the franchise system, and conducts empirical research by means of questionnaires to verify the practicability of the evaluation indicators. At the same time, according to the analysis results, the author puts forward some suggestions to improve the service quality in order to provide reference for the development of terminal logistics enterprises.

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