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Research on Quality Evaluation of Rural E-commerce Logistics Service

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ABSTRACT. *With the development of rural economy, the improvement of living standards of rural residents and the improvement of quality of life, online shopping has become one of their daily life styles. The development of rural e-commerce must rely on the development of logistics industry and the quality of logistics services. It also affects the development of rural e-commerce. Based on the basic theory of Seroquel, this paper take as a company in Lingshan County as an example to construct a rural e-commerce logistics service quality evaluation system, and conducts research and collects questionnaires for local people to learn about its e-commerce logistics. The quality of service is high and low, and problems are found. Then the countermeasures to improve the quality of rural e-commerce logistics services are proposed for reference by rural e-commerce logistics enterprises.*

KEYWORDS: *Rural e-commerce; Service quality; Logistics service*

1. Introduction

With the continuous development of e-commerce in China, e-commerce has become the dominant business model for Chinese residents. According to the National Bureau of Statistics, in the first half of 2019, China's online retail sales reached 4.82 trillion yuan, an increase of 17. 8%, and rural areas and agricultural products online retail sales reached 777. 13 billion yuan, a year-on-year increase of 21. 0%, a growth rate higher than the national 3.2 percentage point. The retail sales of agricultural products nationwide reached 187. 36 billion yuan, a year-on-year increase of 25. 3%. The online retail sales of poverty-stricken counties nationwide reached 65. 98 billion yuan, a year-on-year increase of 18. 0%. According to statistics, e-commerce has entered the rural areas in a big way, driving a new round of economic prosperity and development in rural areas. The era of rural past news clogging and the self-production and self-sale of agricultural products are gone forever. The sharing of the Internet economy and the information of the times has allowed cross-border sales of agricultural products across the region, and has also brought a large number of commodities into the homes of rural people. Economic development in rural areas.

The development of rural e-commerce must rely on the development of the logistics industry. The quality of logistics services also affects the development of rural e-commerce. Therefore, it is necessary to carry out the evaluation of the quality of rural e-commerce logistics services and improve the quality of rural e-commerce logistics services.

2. The Logistics Dervice Quality Evaluation Model

2.1 Servqual Model

In the late 1980s, American marketing scientists, Pala Hulaman, Wrightham and Bairui proposed a new service quality evaluation system. That is, the quality of service depends on the level of service perceived by users. The degree of difference between the service levels expected by the user. Also known as the (expectation-perception model). The servqual model subdivides its five dimensions into a number of questions, allowing users to expect valuesfor each problem through questionnaires. The actual perceived value and the lowest acceptable value are scored. The quality of the logistics service is evaluated from the perspective of the customer. The model is: servqual score = actual feeling score - expected score.

The calculation formula for servqual is: $SQ = \sum_{i=1}^{22} (Pi - Ei)$;

Where sq senses the quality of service;

Pi is the score of the i-th factor in terms of customer perception;

Ei is the score of the i-th factor in terms of customer expectations (i = 1, 2, 3, . . . n, n = 22);

The weight of each quality of service attribute is determined by the customer survey, and then the weighted average yields a more reasonable servqual score:

That is $SQ = \sum_{j=1}^{5} wj \sum_{i=1}^{22} (Pi - Ei)$,where (i = 1, 2, 3, . . . 22, j = 1, 2, 3, 4, 5)

Wj is the weight of the jth attribute.

At this time, the SQ score is further divided by the factor n (n=22), and the average customer's SERVQUAL score is obtained. Finally, the scores of all the customers in the survey are added together, and divided by the number of customers m, the final score is obtained.

2.2 The Five Dimensions of the Servqual Model

(1) Service Reliability

Warranty is included in reliability. To some extent, something that is reliable

enough to reassure customers is also a guarantee. The guarantee is mainly reflected in whether the company is reliable, whether it can provide the peace of mind that the customer is satisfied, and let the customer think that the choice is correct. It is also reflected in the fact that the service behavior of the staff is reliable and can reassure the customer. They are reliable and have a certain level of professional competence.

(2) Service Tangibility

The tangibility is preserved. The tangibleness is manifested in the fact that there are certain modern logistics infrastructures at the outlets, the equipment is complete, and the employees also have corresponding work uniforms.

(3) Service Empathy

Empathy is preserved. The specific performance is whether the employee can stand on the customer's stand, think of the customer, and provide better service to the customer and meet the customer's needs. It is also reflected in whether employees can face their work in the most active and full state, and develop the company's “first smile” for the company.

(4) Service Economy

Increased economics. The cost issue is also a big problem for the customer to consider. In the case that the services provided by the logistics company tend to be consistent, the cost benefits are the biggest factor that people consider when choosing. It is mainly reflected in the flexibility of the cost in the case of different regions and different types of goods. Whether there is protection on the online shopping return, whether the fee is favorable. Is the logistics pricing reasonable?

(5) Service Convenience

Convenience is reflected in whether the customer's pick-up and mailing are convenient, whether it can be quickly processed when going to the outlet, and whether the check is convenient and accurate. This also takes into account the problem of network coverage.

(6) Efficiency

The responsiveness is changed to efficiency. Mainly in the efficiency of staff services, and the efficiency of goods in transit, information tracking and so on.

3. Evaluation on the Quality of Rural E-commerce Logistics Service of Company 3A

3.1 Logistics Service of Company 3A

The company a is a b2c self-operated e-commerce logistics enterprise in Lingshan. Relying on its self-operated logistics distribution system in Quanlingshan County, it has become one of the earliest e-commerce enterprises dedicated to the construction of rural e-commerce logistics in Lingshan. The company is in Lingshan

County. More than 200 experience service stores were set up in townships. In order to effectively evaluate the quality of the company's logistics services, we distributed 300 questionnaires to the company's customers, and also conducted local visits and surveys, including 278 valid questionnaires. It is 92.67%. For the arrival time of logistics goods, 74.25% of the people said that it takes 3-5 days for the delivery to arrive, and 5% of the people said that it takes 10 days for the delivery to arrive. For the cargo loss, 52.69% said Occasionally there was a loss of goods or damage to the goods; 45.51% said that there was no loss or damage of the goods. For the logistics delivery speed, 43.11% said that they were satisfied, and 41.92% said that the goods were packaged. 49. 7% said they were satisfied, 17.96% said they were very satisfied, and 29.94% said that they were generally satisfied. For the goods in transit, the degree of renewal of logistics information, the attitude of customers is 35.93%, which is satisfactory. 35% said they were very satisfied, 29.94% said they were average. The rest said they were very dissatisfied. In addition, we also investigated the customer's satisfaction with the courier when receiving the service. The courier's work attitude, 46.11% of the survey The person expressed very satisfied, 35.33% said that they were satisfied, and 2.4% said they were dissatisfied. About the degree of work of the courier, 42.51% said they were satisfied, 32.34% said they were satisfied. 22.75% said it was average.

In general, there are still many other problems existing in the current e-commerce logistics in the three companies. Therefore, it is necessary to establish a quality evaluation system in order to accurately identify these problems and improve them, and improve the rural e-commerce logistics of the three companies. service quality.

3.2 Evaluation and Analysis of Rural E-commerce Logistics Service Quality of 3A Company

(1) Main dimension analysis

Based on the five dimensions of the servqual model as an important indicator for evaluation, according to the actual situation of the e-commerce logistics in Lingshan County, we determine the dimension factor of its service quality evaluation, as shown in Fig. 1.

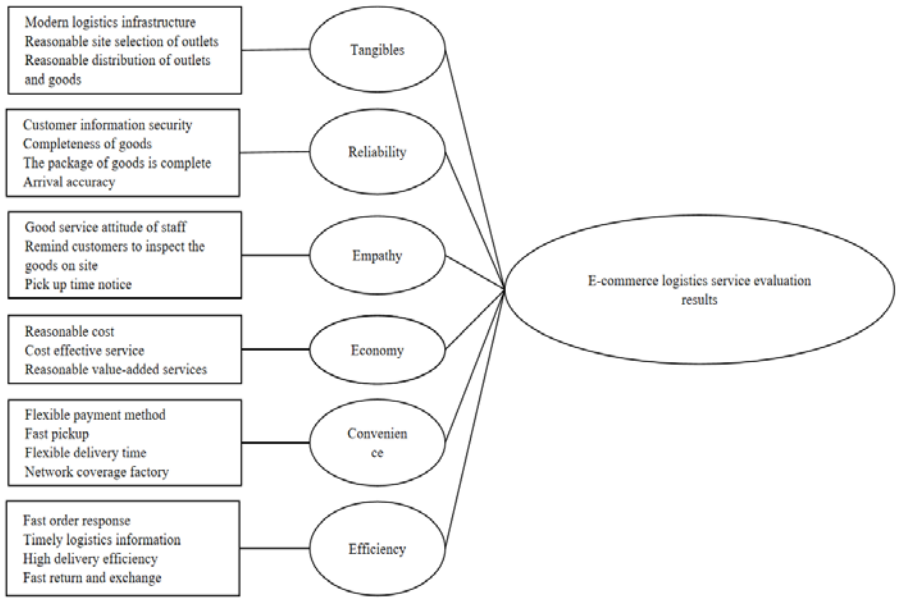

Figure.1 E-commerce logistics service evaluation dimension factor

(2) Construction of evaluation model

The established model is based on the servqual model, servqual score = actual perceived score p - expected score e. 21 factors are proposed in the above model dimensions. We give absolute weight to each of the basic factors. This model The scores are named after wlfw. There are six dimensions and 21 factors. We assign different weights to the different factors of these different dimensions, but we do quantify the scores. The scores are controlled within 1-5, and the scores are more. High indicates that the weight is greater.

In the first step, we calculate the weight Ai of each dimension, i represents the i-th dimension, and calculates the weight of each factor in each dimension. Aij, j represents the jth in the i-th dimension. factor.

In the second step, we need to calculate the logistics service evaluation score G under each factor, use Pj to represent the customer perception score under the i-th factor, and use Ej to represent the customer expectation score under the j-th factor. G=Ej-Pj.

In the third step, after obtaining the logistics service quality score under each factor, the average number is obtained, H=G/n, and n is equal to the number of samples investigated.

The fourth step is to calculate the logistics service quality score s for each dimension. $S = \sum Aij*H$

In summary, we can conclude: $WLFU = \sum_{j=1}^{6} Ai * \sum_{i=1}^{21} Aij(Pi - Pj)$

After the model is determined, the weights, expected mean values, perceived mean values, and perceived expected differences of the factors are calculated using the relevant questionnaire data. The results are shown in Table 1.

Table.1 Servqual model calculation

Dimension	factor	Factor weight	Expected mean	Perceptual mean	Perceptual and expected difference
Tangible	Modern logistics infrastructure	0.055	4.145	3.321	-0.824
	Reasonable site selection	0.059	4.559	3.702	-0.857
	Network layout and reasonable placement of goods	0.047	4.414	3.621	-0.793
reliability	Customer information security	0.065	4.694	4.693	-0.001
	Integrity of goods	0.043	4.352	4.123	-0.229
	Cargo packaging integrity	0.056	4.683	4.912	0.229
	Arrival correct rate	0.068	4.532	3.719	-0.813
Empathy	Good service attitude of employees	0.048	4.348	4.723	0.375
	Remind customers to inspect the goods on site	0.046	4.425	4.611	0.186
	Pickup time notification	0.042	4.802	4.982	0.18
Economic	Reasonable cost	0.046	4.627	4.803	0.176
	Service cost-effective	0.042	4.356	3.603	-0.753
	Value-added services are reasonable	0.038	4.506	3.728	-0.778
Convenience	Flexible payment method	0.043	4.691	4.816	0.125
	Fast pickup	0.038	4.807	3.985	-0.822
	Flexible delivery time	0.038	4.210	4.402	0.192
	Wide coverage of outlets	0.045	4.106	3.25	-0.856
Efficiency	Order response is fast	0.048	4.328	3.452	-0.876
	Logistics information in a timely manner	0.049	4.513	3.719	-0.794
	High arrival efficiency	0.042	4.285	3.485	-0.8
	Fast return	0.043	4.381	3.603	-0.778

By comparing the actual perception of the customer with the perceived perception, if the perception is lower than expected, then the quality of the logistics service can be judged to be low. If the perception is greater than expected, then the quality of the logistics service can be high. If the two are equal, the quality of

logistics services basically meets the needs of local residents.

From the table we can see that the 21 indicators of the customer's expected value Ei are greater than 4, which indicates that the customer's quality requirements for logistics services are relatively high, the index value is between 4.106-4.807, the difference is 0.701, and the expected value fluctuates little. The actual perceived value of the customer is mostly less than the expected value, and the actual perceived value of only seven factors is slightly higher than the expected value. This indicates that the quality of logistics service does not satisfy the customer, and the overall logistics service quality level is not high.

Finally, after the expected difference of each factor is obtained, the total score of the company's rural e-commerce logistics service quality is calculated, as shown in Table 2.

Table.2 Data for each dimension and its score

Dimension	Expected mean	Perceptual mean	Perception-expectation difference	Weights	Total Score
Tangible	4.373	3.548	-0.825	0.161	-0.406
reliability	4.565	4.362	-0.204	0.232	
Empathy	4.525	4.772	0.247	0.136	
Economic	4.496	4.045	-0.452	0.126	
Convenience	4.454	4.113	-0.340	0.164	
Efficiency	4.377	3.565	-0.812	0.181	

According to the overall regression line analysis, the final total score of the dimension factor is negative, which indicates that the customer is not satisfied with the relevant evaluation of the logistics service quality provided by the company. The more prominent aspects are embodied in tangibility, reliability, economy, convenience and Efficiency.

According to the evaluation of the quality of rural e-commerce logistics service of Sana Company, we analyze the main reasons for the low score of logistics service quality evaluation and the dissatisfaction of customers: First, the geographical conditions of rural areas in Lingshan County are not densely distributed. There are some outlets in the county towns to the townships and towns, and there are few outlets involved in various towns and towns. The express delivery is complicated and messy, and the store area is not large. The shelf and matching logistics infrastructure equipment is not complete, and the professional level of employees is not Strong, leading to a low level of overall business processing. Second, the main body of township e-commerce logistics is mainly student-oriented, and involves various villages, which makes the distribution has certain difficulties, can not be timely delivery will delay the receipt of goods, customers Dissatisfied and increased the accumulation of goods, increased storage costs. Three a company in Lingshan is a development scale, relatively good economic strength, the company's service evaluation is not high, then it can also reflect the level of the entire Lingshan rural e-commerce services. Rural e-commerce logistics services have a long way to go,

and it is necessary to continuously improve the quality of rural e-commerce logistics services.

4. Strategies for Improving Logistics Service Quality of Rural E-commerce

1) Expand network coverage. Develop distribution points in villages with large quantity of express delivery and long distance, seek contractors, carry out relevant training for them, and increase the coverage rate of logistics outlets. In many rural areas, logistics outlets only develop to the township level, villages have no outlets, the coverage rate of logistics outlets is low, and the use of logistics express by ordinary people is limited by conditions. Therefore, increasing the number of logistics outlets, especially in villages with large express delivery volume and low coverage rate, is a prerequisite for fully opening up rural e-commerce.

2) Establish a sound mechanism for taking goods. At present, the main way of picking up goods by express delivery in many rural areas is to queue up at home. This way of picking up goods is limited by time and space and is not an effective way of picking up goods. Therefore, a better and more humanized way of picking up goods needs to be sought. For example, whether Fengchao automatic cargo picking machine can be gradually promoted in rural outlets to make the picking methods diversified and humanized is also the direction of the development of rural e-commerce logistics.

3) Scientific classified management of express delivery. Strengthen the management of express delivery, code and classify the goods, so as to facilitate the search for the goods. If goods are classified and coded according to a certain region or region, customers can quickly find the corresponding goods when picking them up at home, thus improving their service efficiency and enabling customers to obtain better service experience.

4) Strengthen the training of employees. Each network in the countryside needs to carry out service tracking, understand the actual situation of its operation, and formulate relevant plans for personnel management and training. At present, the vast majority of the rural logistics service employees are local farmers, and the logistics professional skills are deficient. Therefore, we should pay attention to the professional skills training of the employees to improve the service level of the employees.

5) Enhance employees' sense of identity with the enterprise. Strengthening employees' identification with corporate culture is one of the effective ways to improve service quality. The employee's identification with the corporate culture determines whether the employee can devote himself to his own work. Only by devoting himself to his work can he realize better service. Therefore, more attention should be paid to grass-roots employees so that they can understand and identify with the corporate culture, thus providing better services to customers.

4.6 Strengthen the investigation of customer satisfaction. Customer satisfaction is the first criterion to judge logistics service. Logistics express delivery companies

provide services, and customers' intuitive feelings are the main criteria to evaluate the quality of logistics service in logistics companies. Therefore, it is necessary to strengthen the investigation of customer satisfaction, establish a practical and useful customer feedback mechanism, understand customers' intuitive feelings all the time, discover problems in time, continuously optimize their own service quality, and change their own deficiencies.

5. Conclusion

In today's fast-growing economy, e-commerce has become an important part of daily life, and the logistics industry also occupies an important position. The upgrading of logistics services will accelerate the development of e-commerce, and the development of e-commerce will also promote the improvement of logistics services. Rural e-commerce also needs to improve the quality of logistics services, improve logistics service equipment, and achieve a more modern and more humane, and create a better future for rural e-commerce development.

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