The Reform of Exhibition Logistics Course from Evaluation Factors of Agricultural Products Distribution Service after Exhibitions

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Abstract: the curriculum is the focus of teaching reform. Curriculum reform is the lifeline of teaching reform. The curriculum construction in colleges and universities should serve the goal of talent training; the education and teaching reform reform should be in line with the scientific frontier, the professional knowledge and the practical production. On the basis of analyzing factors influencing the evaluation of agricultural products distribution service after the exhibition, this paper puts forward suggestions on the direction of education reform of exhibition logistics. Based on the servqual model, this paper uses the analytic hierarchy process to further optimize the model and evaluate the service quality of agricultural products e-commerce distribution. Based on the servqual model, this paper enumerates the important knowledge points and factors in the course of exhibition logistics, and explores the direction of education reform of this course.

1. Introduction

As a required course for exhibition specialty, *Exhibition Logistics* has rich contents and comprehensive knowledge points. Due to the increasing agricultural products exhibitions, the distribution and transportation of agricultural products after exhibitions become important contents of this course. After-exhibition transportation of agricultural products involves exhibition services, logistics services, the storage and transportation of agricultural products as well as other links. However, most colleges and universities set up the *Exhibition Logistics* course simply through "adding" the contents of exhibition and logistics, which can not achieve the purpose of training talents on exhibition logistics. The graduates are not qualified in professional exhibitions, and cannot take charge of the logistics service of agricultural products after exhibition. In this paper, the SERVQUAL model is used to evaluate the distribution service of agricultural products after exhibitions. Based on the evaluation results, important knowledge points of the *Exhibition Logistics* course, especially for the learning of factors in the field of exhibition logistics of agricultural products are proposed, so as to achieve the purpose of reforming the *Exhibition Logistics* course.

2. The Servqual Model

The SERVQUAL model is the abbreviation of service quality. It evolved from ten attributes of service quality in the "service quality concept pattern", and was finally revised to five dimensions and 22 indicators. The model considers that service quality depends on the difference between the perceived service level P and the expected service level E, that is $SQ=P-E$ (SQ is the perceived service quality, P is the perceived service level, E is the expected service level); it is used to evaluate the quality of different services accepted by customers. Smaller gap means higher service quality evaluation; larger gap represents lower service quality evaluation.

In order to further apply it to the measurement of the service quality of e-commerce agricultural product distribution, this study further modified and optimized the perceived service quality SQ.

3. Scale Design and Questionnaire Survey

3.1 The Scale Design

According to the particularity of the distribution service of agricultural products after exhibitions,

the SERVQUAL model is further modified to determine 19 indicators in five dimensions, so as to ensure the adaptability in the field of service quality of agricultural products distribution (shown in Table 1).

Table 1 Indicators of Service Quality of Agricultural Products e-Commerce Distribution.

dimension	indicator	dimension	indicator
tangibles	A wide range of destinations	assurance	Good communication with distribution personnel
	Complete preservation equipment		Simple return and exchange process
	uniform and tidy clothes of distribution personnel		Available service hotline
reliability	Service is consistent with commitment	empathy	High brand awareness
	Accurate order delivery		The company is trustworthy
	intact goods		simple and convenient compensation for damaged goods
	Customer personal information is kept confidential		Satisfactory complaint handling
Responsive-ness	Quick response to customer orders		
	Sending out on time		
	On time delivery		
	real-time query of logistics information		
	Quick response to complaints, claims and suggestions		

At the same time, in order to make the research results more in line with the actual situation and have the promotion value, this study, based on the SERVQUAL model, uses the analytic hierarchy process and gives different weight coefficients to the five dimensions of important characteristics according to the different importance of factors affecting the service quality of agricultural products distribution.

$$\overline{SQ} = \frac{\sum_{k=1}^{5} W_k \dfrac{\sum_{i=1}^{n}(\overline{P_i} - \overline{E_i})}{n}}{n}$$

($\overline{SQ}$ it is the average value of the overall service perceived quality; W_k is the weight of each dimension; $\overline{P_i}$ is the average value of the user perceived service level; $\overline{E_i}$ is the average value of the user expected service level.)

3.2 Questionnaire Design and Distribution

In order to clarify the system of factors influencing the service quality of agricultural products distribution after exhibitions, the survey is carried out in two levels. The first level employs the analytic hierarchy process (AHP) and the expert panel method. The importance of influencing factors, namely the weight coefficients, is determined by the analytic hierarchy process and the survey results of 15 experts. Based on this, the complex problem is divided into 19 indicators at three levels: the target level, the middle level and the bottom level. Through direct comparison and calculation of each indicator, the weights of different schemes are determined. Secondly, on the basis of above analysis, we use the five level Likert scale to evaluate and describe the service quality of e-commerce distribution of agricultural products. The service quality level is divided into five levels, in which 1 indicates complete disagreement; 5 indicates complete agreement. The specific scores are 1, 2, 3, 4 and 5. In this survey, 100 questionnaires are sent out and 96 are recovered, of which 96 are valid and the effective rate is 96%. Most objects of this survey are professional audiences of the exhibition; they have the experience of bulk buying agricultural products in the exhibition. They have used the exhibition distribution service, and can understand

the questionnaire items well. In this study, the SPSS software is used to analyze the results.

4. Descriptive Analysis of Samples

4.1 Ahp Conclusion Analysis

This paper uses AHP to evaluate 15 experts according to three levels, five dimensions and 19 indicators, in order to determine the weight coefficients of different indicators and dimensions, and to optimize the SERVQUAL model.

Through the scores of 15 experts and the AHP analysis, the evaluation factors on the service quality of agricultural products logistics and distribution are compared. The weight coefficients of the five indicators in the middle layer are as follows: reliability (0.2252) > assurance (0.2193) > responsiveness (0.2187) > tangibility (0.1715) > empathy (0.1653). In each level, the weight coefficients of the lowest level indicators are listed as follows. In terms of tangibility: complete preservation equipment (0.0645) > wide range of distribution destinations (0.0593) > uniform and tidy clothes of distribution personnel (0.0478); in terms of reliability: accurate order delivery (0.0585) > intact goods (0.0571) > customer personal information is kept confidential (0.0568) > service is consistent with commitment (0.0528); in terms of responsiveness: sending out on time (0.0448) > quick response to customer orders (0.0447) > on time delivery (0.0466) > quick response to complaints, claims and suggestions (0.0433) > real-time query of logistics information (0.0392); in terms of assurance: good communication with distribution personnel (0.0752) > simple return and exchange process (0.0737) > available service hotline (0.0703); in terms of empathy: the company is trustworthy (0.0429) > satisfactory complaint handling (0.0414) > high brand awareness (0.0407) > simple and convenient compensation for damaged goods (0.0401).

4.2 Scale Conclusion Analysis

4.2.1 Sample Reliability Analysis

Reliability refers to the consistency or stability of the measurement results of the questionnaire, reflecting the true degree of the measured value. In the Likert scale, the "Cronbach's a coefficient" is used in the reliability analysis. In this study, the a-coefficient is 0.918, indicating that the reliability of the scale is very good, and the measurement conclusion is reliable.

4.2.2 Sample Validity Analysis

Validity refers to the degree of agreement between the measured response results and the research contents. Through the KMO test and the Bartlett test, data correlation can be explained. In this study, the KMO value is 0.610, greater than 0.5, and the significance probability of Bartlett's sphericity test statistical value is 0.000, which shows that the data are correlated, and the measurement results are consistent with the content to be studied.

4.2.3 Descriptive Analysis

SPSS is used to re-code the five level Likert scale of service quality of agricultural products distribution after the exhibition into the same variable; the descriptive analysis of consumer scoring data is conducted according to the 10-point scoring method.

Through the descriptive statistical analysis, we can know that the standard deviation of each index is small, which means that the data is closer to the average value and the data are relatively stable. The overall scores on the service quality of e-commerce distribution of agricultural products are relatively high. Among the five indicators at the middle level, the reliability score is the highest and the tangible score is the lowest. This shows that consumers are satisfied with the evaluation indexes of accurate order delivery, the intact goods and the confidentiality of customers' information; the lowest score is given to the complete preservation equipment. In the evaluation of the 19 lowest level indexes, the indicators with higher scores are a wide range of destinations and intact goods. The index items with lower scores are complete preservation equipment as well as uniform and tidy clothes of distribution personnel. Other consumer scores are relatively

concentrated, such as, service is consistent with commitment, sending out on time, on-time delivery, quick response to customer orders, real-time query of logistics information, simple and convenient compensation for goods damage and satisfactory complaint handling. Consumers basically agree with these indicators.

5. Analysis on the Service Quality of Agricultural Products Distribution Based on the Servqual Model

On the basis of the SERVQUAL model, the analytic hierarchy process is used to give different weight coefficients to the five dimensions of important characteristics according to the different importance of factors affecting the service quality of agricultural products distribution. It is assumed that consumers expect very satisfactory factors in all indicators. The results are as follows (in Table 2).

Table 2 Servqual Model Of Agricultural Products e-Commerce Distribution Service Quality Evaluation.

Dimension index	Specific index	Perception $\overline{P_i}$	Expectation $\overline{E_i}$	$\dfrac{\sum\limits_{i=1}^{n}(\overline{P_i}-\overline{E_i})}{n}$	$\sum\limits_{k=1}^{5}W_k\dfrac{\sum\limits_{i=1}^{n}(\overline{P_i}-\overline{E_i})}{n}$
Tangibles 0.1715	A wide range of destinations	4.6250	5.0000	-0.3750	-0.1751
	Complete preservation equipment	3.5521	5.0000	-1.4790	
	uniform and tidy clothes of distribution personnel	3.7604	5.0000	-1.2396	
Reliability 0.2252	Service is consistent with commitment	4.3854	5.0000	-0.6146	-0.1255
	Accurate order delivery	4.4271	5.0000	-0.5729	
	intact goods	4.5417	5.0000	-0.4583	
	Customer personal information is kept confidential	4.4167	5.0000	-0.5833	
Responsive-ness 0.2187	Quick response to customer orders	4.0729	5.0000	-0.9271	-0.1791
	Sending out on time	4.2500	5.0000	-0.7500	
	On time delivery	4.2708	5.0000	-0.7292	
	real-time query of logistics information	4.2396	5.0000	-0.7604	
	Quick response to complaints, claims and suggestions	4.0729	5.0000	-0.9271	
Assurance 0.2193	Good communication with distribution personnel	4.2813	5.0000	-0.7188	-0.1896
	Simple return and exchange process	4.0000	5.0000	-1.0000	
	Available service hotline	4.1250	5.0000	-0.8750	
Empathy 0.1653	High brand awareness	3.9792	5.0000	-1.0208	-0.1236
	The company is trustworthy	4.4583	5.0000	-0.5417	
	simple and convenient compensation for damaged goods	4.3438	5.0000	-0.6563	
	Satisfactory complaint handling	4.2292	5.0000	-0.7708	
Service quality of e-commerce distribution of agricultural products $$\overline{SQ}=\dfrac{\sum\limits_{k=1}^{5}W_k\dfrac{\sum\limits_{i=1}^{n}(\overline{P_i}-\overline{E_i})}{n}}{n}$$				-0.1586	

Through the SERVQUAL model weighted optimization algorithm, it can be analyzed that the indicators with the greatest difference between customer service perception and customer service expectation are reflected in the complete preservation equipment as well as the uniform and tidy clothing of distribution personnel. That means, the perception and expectation of tangibles have a

large gap, but the weight coefficients of tangibles to the overall service quality of agricultural products distribution are small, which weakens the influence of two indicators to the service quality. The indicators with the smallest difference between customer service perception and customer service expectation are generally focused on reliability: service and commitment are consistent, order distribution is accurate, goods are in good condition and other indicators. Consumers' scores are high, and there are little differences from the expected values. Reliability dimension is of high importance to the overall quality of distribution service, and has great influence on the evaluation of distribution service quality. The direction of curriculum reform can be obtained by weights of factors affecting the fresh product distribution service after exhibitions.

6. Suggestions

First, based on the SERVQUAL model of agricultural products distribution service quality evaluation index system, through expert scoring and AHP analysis, it is found that among factors affecting the evaluation of agricultural products e-commerce distribution service quality, reliability, responsiveness and assurance produce greater influences than tangibility and empathy. Therefore, when implementing the strategy of improving consumers' perception and experiences, the agricultural e-commerce should focus on reliability, responsiveness and assurance.

In the course of *Exhibition Logistics*, we should strengthen the education and teaching of contents relevant to consumer service perception. The management personnel, department heads and front-line logistics practitioners need to improve the quality of logistics service in terms of the reliability, responsiveness and assurance, which requires efforts in the response of information system and the management of exhibition logistics. Therefore, in the course of *Exhibition Logistics,* we should strengthen the construction of the logistics information system and relevant contents of logistics service quality.

Secondly, the good communication with distribution personnel, the simple return and exchange processes and the available service hotline have high weight coefficients. In service quality evaluation, the service and commitment, order distribution, intact goods, the on time delivery and other responsiveness and reliability indicators are very important. But in addition to these "explicit" hard indicators, consumers attach more importance on "soft" indexes of customer service. Therefore, agricultural e-commerce should lay emphasis on the "soft" indexes when implementing the strategy of improving consumers' perception and experiences.

In the course of *Exhibition Logistics*, we should strengthen the construction of contents related to the supervision of the third party logistics. In the teaching process, it is necessary to emphasize the training of management personnel to the front-line distribution personnel, and the training of after-sale personnel in their professional knowledge, service attitudes, service languages and service specifications, in order to improve customers' satisfaction of "soft" indicators.

Thirdly, from the descriptive analysis of 19 indicators of consumers' evaluation of distribution service quality, the model establishment and data collection are standardized; the model has good reliability and validity as well as reliable measurement results. The measurement results are consistent with the research content.

In the course of *Exhibition Logistics*, we can strengthen the construction of hardware conditions of agricultural products distribution, such as learning the usage of refrigeration and fresh-keeping equipment, in order to strengthen students' understanding and expand their knowledge reserve on hardware facilities and equipment.

Fourthly, according to the SERVQUAL model-based evaluation index system of agricultural product distribution service quality, it can be found that using the SERVQUAL model to carry out weighted optimization algorithm is suitable for this research, and has certain promotion and application value.

7. Conclusion

Exhibition Logistics is a course which covers comprehensive knowledge. The course should

"down to earth", "connect with life" and have practical significance, so it needs to include contents and knowledge related to exhibitions, logistics, consumers and other related fields. In this way, the teaching objectives can be clear; the direction of teaching reform can be clarified; the design of teaching knowledge points can be completed.

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