

Integral approach to assessing the quality of trade services using qualimetry methods

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Abstract. The article studies certain types of qualimetry as a method of quality analysis. The scientific works of Russian and foreign scientists considering the features of qualimetric analysis methods application were studied. The study reveals that the methods of qualimetry in assessing the quality of trade services are poorly covered in scientific works. The article determines the directions of quality assessment, including economic and social components of trade services. The author proposes an approach to assessing the quality of trade services using qualimetry methods and indicates estimated parameters and expected results. The novelty of the research lies in the developed approach to determining the parameters characterizing the quality of a trading service for evaluation using qualimetry methods. The author suggests an approach and describes a methodology for calculating an integral indicator characterizing the quality of a trading service from the standpoint of its economy and social significance. In the calculations, the author focuses on indicators of the social effect and cost-effectiveness of trade services

Keywords: Qualimetry methods · Quality assessment · Trade services · Customer service in sales · Quality indicators.

1. Introduction

The science of qualimetry is a field that studies theoretical and applied problems of quality assessment and combines methods of quantitative and qualitative analysis. Qualimetry methods are applicable to goods, i.e. those objects where one of the characteristics is such concept as quality (Subetto, 2002). The methods of qualimetry and the approaches used have been little studied and are significantly limited in relation to trade services and customer service in sales. From the position of social qualimetry, such services as the purchase and delivery of goods to the house are mainly considered as household services, whereas all other trade services are not social, they are conditionally classified as objects of subject qualimetry (Babkina and Skotarenko, 2013). As a result, understanding the direction of these methods becomes more complicated. Any trade service can be both an object of social qualimetry and a subject one, since it is integral to the process of selling goods itself, while being commensurate with services that ensure the standard of the population's life by the quality of purchased goods and trade service. Thus, the assessment of trade services quality should have a dual purpose: on the one hand, to determine the quantitative and qualitative indicators of the service as an element of the sales process, on the other hand, to assess the level of service influence on the life quality of the population.

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2. Materials and methods

The collection of scientific material was carried out using desk research methods. Quantitative and qualitative methods of field research were used to analyze information and became the basis for the development of the author's approach to the integral assessment of trade services quality.

3. Results

The quality of trade services is one of the priority competitive advantages of the organization, forming the image of the enterprise and ensuring customer loyalty. The process of goods circulation depends on it, as well as the degree of customer satisfaction. Also, good quality of service may increase probability of making repeated purchases. Each trade organization strives to create a quality management system that gives the maximal satisfaction from the purchased goods (Dudin et al., 2015).

At the same time, it is much easier to ensure the quality of the goods in some cases, since the assessment of a material object characteristics has a clearly fixed form and the possibility of qualitative and quantitative determination. With regard to trading services, the assessment of their quality level is a more complex process that requires the ability to apply modern methods of analysis, as well as to process the results obtained. This skill depends on the experience of the specialist conducting the study and the availability of clearly established trading services standards.

Methods and tools of qualimetry, as the science of measuring qualitative and quantitative characteristics of an object, are barely found in those few scientific works that are devoted to assessing trade services quality. Unlike trade services, qualimetry has been widely studied from the position of a tool for assessing social services quality. For example, the scientist Moroz N.I. (Moroz, 2014) examines in detail the methods of qualimetry in assessing social policy quality. Scientists Benkovich T.N. and Chepurenko G.P. consider qualimetry as a direction in pedagogy, as an integral component of human qualimetry (Bankovich and Chepurenko, 2012). Scientist Rozhdestvenskaya L.N. focuses on the rationality of using tools and methods of qualimetry in assessing the qualitative and quantitative characteristics of social nutrition services (Rozhdestvenskaya, 2012).

Regarding trade services, scientific works have a "one-sided" orientation, in which the methods of qualimetry are directly related to the product, and the evaluation result is applicable to the general characteristics of the enterprise. Thus, scientists Solovyova O.I. and Solovyova E.A. offer a system of qualimetric indicators specific to a particular product or enterprise, linking their level with competitiveness for consumer assessment of services quality. However, the authors do not give explanations when a qualitative approach to evaluating the service is applicable and when a quantitative one is needed (Solovyova and Solovyova, 2010).

An integrated approach, which will record clear quantitative parameters and level of quality provision should be applied when assessing the quality of trading services. So, the service for the delivery of goods, from reliability point of view will be determined by service completion period or the safety of the goods during transportation, which will make a quantitative assessment. In the same way the cost-effectiveness of the service is evaluated, while delivery courier skills, his competence and decency can represent a qualitative assessment, which will depend directly on the final satisfaction of the buyer and his current attitude to the service received. A similar concept was proposed by the scientist Taguchi G., who offered an approach to quality not from the standpoint of management philosophy, but from the standpoint of object engineering characteristics which are due to the insensitivity of the product to external changes (Antony and Kaye, 2000). This approach is close to services, since a service that is the least susceptible to changes during the process of the provision will be considered as a high-quality one.

The most important problem in the use of qualimetric analysis tools in assessing the quality of trading services is the lack of indicators and standards of the service as such. The standard of a service is its sample or measure that characterizes the established norms and parameters. Trading service standards, individual for each trading organization, should be developed for trading services in relation to indicators, while their content and established norms should not contradict the requirements in regulatory acts. The service standards should be based on the idea of a GAP model (Parasuraman et

al., 1985), which assumes an assessment of the service quality from the standpoint of the discrepancy between expectations and actual presentation. In other words, with a high-quality service, the buyer's expectation should be close to the level set in the service standard. A similar approach was proposed by the scientist Grönroos C., whose service quality model involves the process of comparing the consumer's expectations and the service actually received (Grönroos, 1984).

Combining the methods of social and subject qualimetry into a single approach on the one hand is due to the need to determine the impact of the service on the competitiveness of the enterprise as a whole, on the other hand is due to the need to manifest its impact on the social standard of the population living (Figure 1).

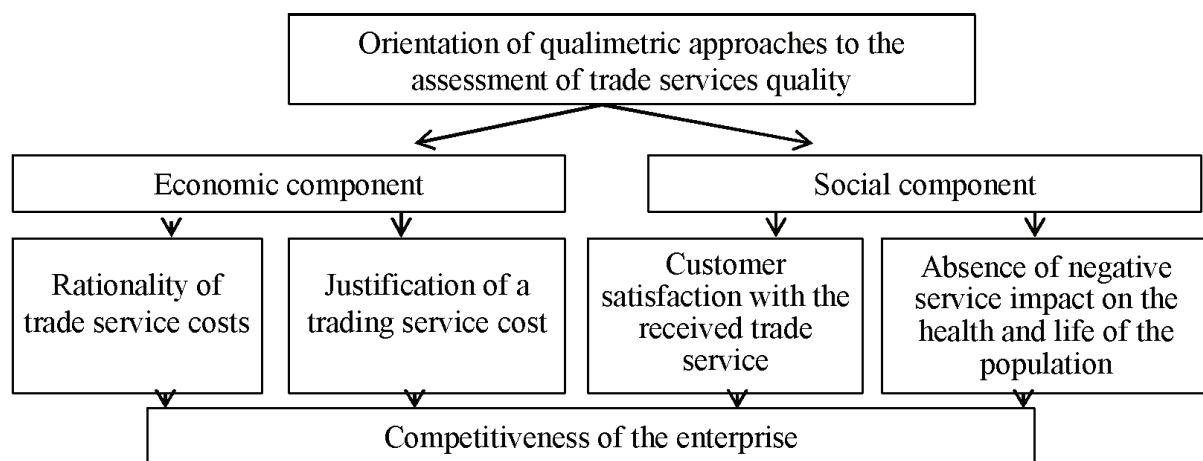


Fig. 1. The focus of qualimetric methods in analysis while assessing the quality of trade services.

From the economic component point of view, each trading service should be commensurate with the costs generated during its provision. The service, against the background of its inseparability from the trading process, should be cost-effective, since its cost has a direct impact on the price of the product, and as a consequence on its price competitiveness. If the provision of a service that requires certain financial costs affected the price of the goods sold upwards, such a service should be subjected to a quantitative analysis method to determine the rationality of the provision. The service will be considered to be of the highest quality if a quantitative analysis determines that its provision generates a minimum amount of costs, and a qualitative approach reveals that an extremely low impact on the price is established.

Also, the cost of any trading service should be justified, therefore, a quantitative assessment of the costs for service providing and its price should be in the balance (Uryaseva et al, 2021). When the cost of a trade service provided to the population is high in relation to the costs of its provision, it no longer has a social effect, but acts as a commercial activity and become a kind of service sector commodity. This is the basic principle that should be used when dividing the activities for the following: trading (providing the sales process) and service (acting as a separate activity). For example, when buying complex household equipment its setup can be considered as a trading service only if the provision of such service was free of charge or the costs of its provision was a part of the purchased goods price. So, when setting up the purchased TV, the cost for the service can be charged only if the company has opened an appropriate type of activity according to the OKVED (National Classifier of Economic Activity Type) 32.30.9 (National Code of Economic Activity Type, 2022).

The economic component of a trade service boils down to the fact that, unlike the activities of service enterprises, it does not have a direct commercial benefit; its provision should have an impact on the overall level of competitiveness by providing a high level of service.

The social component of the trading service is the formation of a connection between the seller and the buyer. The purpose of such connection is the maximum possible satisfaction of the buyer with the goods under the most favorable condition of its sale. Any trading service must be safe for the buyer, while the manifestation of dangerous influences is unacceptable during the period of general receipt of service effect in the entire time interval of interaction with the purchased goods.

The assessment of trade services quality using qualimetry methods should take place in two directions: the analysis of the service cost-effectiveness and its social effect. The purpose of the assessment is the commensurability of economic rationality and social significance by an integrated approach to the assessment of qualitative characteristics, which, in contrast to established research methods based on generally accepted indicators (Lisyutina, 2020) will allow to differentiate the service and give it an objective assessment.

Table 1. The author's approach to assessing the quality of trade services using qualimetry methods.

Component of the service	Methods	Estimated parameters	Result
Economic	Quantitative	- share of costs in the service price; - dynamics of changes in the cost of the service over time; - cost of similar spendings; - increase in the price of goods under the influence of services, etc.	The quality level is assessed depending on the amount of costs generated during the implementation of the service, the degree of influence on the total cost of the goods or the share in the total cost of the goods
	Qualitative	- level of the consumer's attitude to the cost of the service; - degree of the buyer's response to the cost of the service; - level of demand for services by price, etc.	The quality level is assessed depending on the frequency of the service, the presence of negative or positive feedback and claims for fluctuations in the cost or content of the service
	Comprehensive	- dependence of demand for a service on its cost (correlation, regression)	The quality level is assessed in the presence or absence of fluctuations in demand for the service in terms of changes in its price
Social	Quantitative	- level of repeat purchases; - level of refunds and complaints; - increase or decrease in the number of buyers; - degree of satisfaction with the service, etc.	The quality level is assessed depending on the availability and dynamics of negative customer feedback on the level of service received, reduction in the number of repeat purchases, and the overall level of satisfaction
	Qualitative	- degree of service availability for the buyer; - degree of service influence on consumer choice; - balance of the set of trading services provided.	The quality level is assessed from the standpoint of the completeness for the services set as elements of commercial service and the possibility of receiving services regardless of the time and the purchased goods
	Comprehensive	- dependence of customer satisfaction and receptivity of the service on the degree of its availability and sufficiency for the buyer.	The level of service quality is assessed from the standpoint of the overall customer satisfaction with the service received and its impact on the standard of living

The proposed parameters are the characteristics of the trading service, which directly affect quality. The estimated indicators were studied by the author earlier (Gutnikova et al., 2022).

This approach involves the calculation of trading service quality integral indicator, calculated as the ratio of the total social effect received by the buyer to the total cost of specific service:

$$I = \frac{\sum Ce}{ne} / \frac{\sum Cc}{nc}, \tag{1}$$

where I – integral indicator of a trading service quality;

$\sum Ce$ – the sum of coefficients characterizing the level of service components quality, i.e. forming its social effect;

ne – the number of coefficients characterizing the effect of the service;

$\sum Cc$ – the sum of the total costs’ coefficients generated for service rendering.

nc – the number of coefficients characterizing the cost-effectiveness of the service from the point of view of the costs for its provision.

The calculation of the integral indicator is widely used in practice, and the calculation method has a classical expression (Fadeeva, 2012). At the same time, the peculiarity of the application is reduced to the need to determine the most significant indicators characterizing the service and to establish an evaluation scale, as well as to bring the indicators to a single value. In such case, it is necessary to bring all the indicators to the value of the coefficients using a point score.

Table 2. Coefficients characterizing the quality of the trading service and the method of their calculation.

Component of the service	Characterizing coefficients	Calculation method	Calculation formula
Social	Coefficient of customer satisfaction with the service	When calculating, the indicator is estimated using a point scale from 0 to 1, depending on the actual satisfaction of the customer from the service provided	$C_s = \frac{\sum p}{n}$, where: p – points received when evaluating the cost of the service based on the results of the survey; n – the number of buyers who gave a score
	The coefficient of the service availability for the buyer	When calculating the total number of customers during the evaluation period is taken as 1, the availability indicator is calculated on a scale from 0 to 1, depending on the number of customers to whom the service was not provided	$C_a = \frac{1}{tn/ncr}$, where: tn – total number of buyers; ncr – number of customers who received the service *
	The coefficient of complaints and return of goods for the service rendered	When calculating the total number of goods sold for the service rendered is taken as a unit, the level of complaints or returns is calculated on a scale from 0 to 1, depending on the number of customers dissatisfied with the service	$C_c = \frac{1}{tn/ncs}$, where: ncs – the number of customers satisfied with the service when purchasing goods (minus the number of refunds and complaints)
Economic **	The coefficient of the goods price ratio for standard (template) service rendered to the actual price of the goods when providing the service	The standard (template) service is taken as a unit, the service actually rendered is estimated in the range from 0 to 1, depending on the ratio of the total price paid at the time of purchase to the price minus the cost of the service	$C_r = \frac{1}{pg/tp}$, where: pg – the price of the good without taking into account the cost of the service; tp – the total price spent on the purchase
	The coefficient of buyers outflows under the influence of the	The number of buyers who made a purchase before the rise in price of the trading service is taken as 1, the indicator of the change in demand (outflow) of buyers is estimated in the	$C_a = \frac{1}{na/nb}$, where: na – the number of buyers purchasing goods after the rise of service price;

increase in service price	range from 0 to 1, depending on the number of lost buyers	nb – the number of buyers before the rise of service price
Coefficient of change in the cost for the service	The price of the service in the previous period is taken as 1, the basic (current) price is calculated in the range from 0 to 1 as the ratio of the previous period price to the reporting one	$C_{ch} = \frac{1}{pp/pr}$ where: pp – the price of the service in the previous period; pr – the price of the service in the reporting period

* the calculation of the indicator is carried out under the condition of specific differentiation of services or goods.

** with a coefficient equal to one, there is no effect of the cost of the service on demand.

As follows from Table 2, when calculating the integral indicator characterizing the quality of a trading service, the numerator will contain the values of the social effect; the denominator will contain the values that determine the cost-effectiveness of the service. As a result, the calculation shows a relative balance between the social effect and the level of costs for obtaining it.

4. Conclusion

When applying qualimetric analysis methods, it is necessary to take into account the specificity of trading services, which, unlike the product itself, are often not tangible and are indirectly related to the sale process, while having a direct impact on the overall satisfaction of the buyer. Thus, the approach to assessing the quality of trade services should take into account the economic component of the service, which characterizes the “profitability” of its provision, both for the trading enterprise and for the consumer, as well as the sociological characteristic of the service, expressed in the effect that the buyer of the goods received and which is reflected in the general standard of the population living.

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