Justification of the model for assessing the quality of services in agrotourism

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Abstract. The article is devoted to the substantiation of the methodology for assessing the quality of services in agrotourism. The main goal is to develop a model that would allow us to take into account all the nuances of assessing the quality of services, taking into account agricultural specifics. In this case, it is difficult to justify ways to improve efficiency, operating solely on economic performance indicators, both absolute and relative: gross income, gross output, net profit, profitability, and others. The presence of both quantitative and qualitative components in this case causes certain difficulties in assessing the efficiency of production. The assessment should include separate components related to the quality side – the service. In this case, it is a component that affects the attraction of additional sources of financing for the main activities of agricultural enterprises. The work is primarily devoted to small businesses – farms as attractive objects from a tourist point of view. In addition, from our point of view, small businesses are able to extract the maximum possible cumulative effect from the combination of basic agricultural activities and the provision of related services. The article presents a methodology for assessing the quality of services based on the SERVQUAL model and adapted for use in the field of agriculture.

1. Introduction
The development of agro-tourism today is one of the most attractive areas that can provide support not only to the tourism sector, but also to agricultural production, especially for small businesses. Farms are becoming attractive to tourists due to various aspects for both farmers and tourists. Let's highlight the key ones.

For farmers, we will highlight two aspects. First, interest in the industry can be viewed from the perspective of extracting additional benefits from doing business while making minimal costs (in fact, sometimes only a profitable «presentation» of the finished product is required – its design in an attractive shell for the consumer from a marketing point of view). And secondly, it is an excellent marketing technique for attracting new customers, raising awareness about the finished product, its quality, etc. At the same time, by «finished product» we mean a combination of ready-to-eat agricultural products (milk, cheese, eggs, etc.) and related services that attract tourists (from tourist programs to accommodation).

For tourists, this means that due to the development of large cities and the outflow of population from rural areas to the urban environment caused by these processes, it is gradually moving away from the «land» – from its rural origins: how often today can you see a city dweller who has banally seen a rooster or, moreover, milked a cow? At the same time, the interest of this category of customers is not only material, but also moral. For this reason, it arises precisely to farms, and not to large agricultural
holdings – these tourists want to see firsthand, in real life, their village origins. This explains the growing interest of the urban population in rural life.

Thus, it would seem that there are only two sides to the problem: on the one hand, there are customers with unsatisfied demand, on the other – an unused supply with sufficient efficiency. To solve them, the farmer often faces questions – who is the client, where to find this client, how to attract and how to keep him? Relatively simple marketing techniques help to partially cope with them (segmenting the market in order to determine the target audience; positioning your product, for example, as a high-quality product made exclusively from natural raw materials; the formation of a permanent clientele; advertising and PR, etc.). As a rule, almost any successful farmer can cope with solving these issues independently.

But here the quality component of services can fail, which does not allow the development of tourism in rural areas with sufficient efficiency: this is due to the dual nature of the finished product of agrotourism: it is necessary to take into account not only the quantitative, but also the qualitative component. Therefore, with the apparent effectiveness of the project, with carefully made calculations, the client may not be satisfied with the quality of service, the attractiveness of the situation, the efficiency of the staff and other points. That is, despite the client's desire to join the rural life, he will not go to an ordinary farmer, as he has a commitment to high quality service.

2. Methods and materials

To assess the quality component in the provision of services in agrotourism, it is necessary to apply one of the developed methods for assessing the quality of services in the field of socio-cultural service.

The easiest way is to assess the level of customer satisfaction through a survey in the form of an oral survey or questionnaire. But this method does not always give an objective assessment. There may be several reasons.

The simplest and most common is non-compliance with the requirements for the research methodology: the list of questions is not thought out, their form, there are no control questions, the sample is unrepresentative, etc. Although this is also true in relation to other methods of quality research (that is, the methodology of conducting other methods may also be violated), but this method is characterized by a number of other disadvantages – it does not take into account the versatility of the quality component: it is necessary to take into account tangles and responsiveness, reliability and assurance, as well as empathy on the part of the staff.

The most common methods of quality assessment that allow us to take into account the listed aspects of service quality to a greater or lesser extent include the «critical cases (incidents)» method, CSI, SERVQUAL (including its derivative SERVPERF). However, our experience has shown that the first two of them are associated with the need to collect a large amount of data [1], which is problematic in small businesses.

We believe that more attention should be paid to the SERVQUAL method [2,3,4,5]. This method is also based on conducting a survey in the form of a questionnaire, but it allows you to take into account all the listed aspects of the quality of the service, including the material component, since it is developed according to the «expectation – real perception» algorithm [2]. However, in its original form, its use can give contradictory results.

This may be due to the following factors.

First, clients in agrotourism, despite their openness and sociability (which distinguishes them from other areas, for example, social), may misinterpret questions (some questions in the questionnaire may require additional clarification from the interviewer) or often give incorrect information for reasons of lack of direct interest in the results of research.

Secondly, the small number of clients: as a rule, tourist groups of no more than 10-15 people are formed, and the number of excursions per month rarely exceeds 5 (in the best months for small farms). Thus, the total number of customers who visited the farm per month, at best, will be 75 people. In this regard, as a rule, there are no individuals who would conduct excursions – they are conducted by the farmer himself.
The proposed methodology, based on the SERVQUAL model, is based not on a questionnaire, but on interviewing clients, which gives a more complete picture [6, 7]. The materials of the study were the results of testing the proposed method from 2017 to 2020.

In this case, the respondent gets the opportunity to decipher the questions that are ambiguous from his point of view and get explanations about the assessment of individual parameters according to the established scales. The openness and sociability of clients allows you to reveal the deep aspects of the quality of services, and the small number of the population will not be an obstacle when conducting a survey, but an advantage when conducting an interview. In addition, the interviewer is directly interested in the results, knows and understands the basics of evaluating and describing indicators, and fills out questionnaires himself, which generally reduces the bias on the part of clients when calculating results.

Further, the main disadvantages of the known methods of quality assessment are due to the specifics of the activities of enterprises in a particular field, in this regard, the use of a single methodology for all areas is not just impractical, and fundamentally wrong, as it gives biased results. For example, in a number of service areas, materiality is not only a higher priority (for example, the food sector), but is characterized by different parameters (for example, the food sector and agrotourism). Further, there are certain cultural differences, and therefore the adoption of the original method in the original will not ensure the objectivity of the research results. Therefore, the distribution of parameters according to the evaluation criteria differs from the original one.

The assessment of the quality of services in agrotourism according to the proposed methodology is carried out in 3 blocks:

1. Assessment of the importance of 5 aspects for customers: reliability, assurance, tangibles, empathy, responsiveness. At this stage, it is important to explain the meaning of these aspects to the client. The assessment is carried out on a 5-point scale: the most significant parameter is assigned 5 points, the least – 1 point. The use of a five-point system simplifies the survey procedure (since it is difficult for the client to distribute 10 or 100 points across 5 parameters), but makes it more difficult to evaluate the results when taking into account the significance of the parameters (which would not occur if using a 10-point or 100-point scale).

The scale is converted from a five-point scale based on the assessment of five criteria to a ten-point scale or a one-hundred-point scale as follows. In our case, we will use a ten-point scale. The step of the original scale is equal to one, the sum of the points is 15. The step of the required scale is not defined, and the sum of the points is 10. Solving a simple proportion (divide the score of the original scale by 15 and multiply by 10), we get that 1 point on the original scale corresponds to 0.67 on the new one; 2 – 1.33; 3 – 2; 4 – 2.67 and 5 is 3.33 points. In total, we get the required 10 points. This will determine the weight of each of the five criteria.

2. Assessment of customer expectations prior to the provision of the service (the «waiting» parameter). Here, the interviewer asks a series of questions about the client’s expectations, grouped into five aspects. The original version with the inclusion of 22 questions is not effective here – customers are set to receive services, and not to participate in the survey. This can lead to skewed results. Therefore, it is necessary to reduce the number of questions asked. In our case – up to 15 for the following groups:

1) tangibles (code «Tang»): level of technical equipment («Tang1»), attractive interior and exterior of buildings and structures («Tang2»), employees are well dressed and neat («Tang3»); 2) reliability (code «Reli»): guarantee of refund («Reli1»); compliance with the terms of service («Reli2»); reliable reputation («Reli3»); 3) assurance (code «Assu»): assurance in the high quality of services («Assu1»); ensuring the security of our customers («Assu2»); customer support by staff («Assu3»); 4) empathy (code «Empa»): individual approach to customers («Empa1»); friendly attitude to consumers («Empa2»); focus on the interests of consumers («Empa3»); 5) responsibility (code «Resp»): timely information («Resp1»); efficiency in work («Resp2»); convenient working hours («Resp3»).

The division of the parameters between the criteria is uniform to level out the errors in the calculation of the final indicators.
The distribution of questions by criteria is uniform.

The assessment of customer statements is made on a three-point scale (3-2-1): «I agree – I find it difficult to answer – I disagree». A five-point scale (5-4-3-2-1) can be used: «fully agree – partially agree – find it difficult to answer – slightly disagree – completely disagree» [2]. However, the use of such a scale for the researcher may be difficult. Therefore, we tend to use the three-point system in practice, but if possible, the researcher can also use the five-point scheme.

The first and second blocks are filled in before receiving the services to achieve maximum reliability of the study, and the third block is filled in immediately after. The selection of respondents should be random to ensure the purity of the methodology.

3. Assessment of the real perception of the quality of the services actually provided (the «real perception» parameter). The interviewer in a similar, unobtrusive form in the format of a dialogue asks the same 15 questions on 5 criteria from the second block, but changed in essence – these questions should be asked in order to find out how satisfied the client is with the services already received, what he did not like, what needs to be supplemented, what satisfies completely, and what he did not expect (a specific opinion of the client).

The calculation of the generalized quality assessment is carried out in the following sequence.

First, you need to compare the results of the final estimates with the values of expectations. To do this, we calculate the average values of expectations for each of the 15 questions (1) and make their rating:

$$
\bar{E}_i = \frac{\sum_{k=1}^{n} E_{ik}}{n}
$$

where $\bar{E}_i$ – average expectation value for each of the questions; $i$ – sequential number of the question; $k$ – sequential number of the questionnaire; $n$ – total number of respondents.

Similarly, the perception parameters (2) are calculated:

$$
\bar{P}_i = \frac{\sum_{k=1}^{n} P_{ik}}{n}
$$

where $\bar{P}_i$ – average value of perception for each of the questions.

The calculation of the quality coefficients for each of the components is calculated by subtracting the received expectation ratings from the received perception ratings (3).

$$
\bar{Q}_i = \bar{P}_i - \bar{E}_i,
$$

where $\bar{Q}_i$ – average quality factor for each of the questions.

Next, the values for the five criteria are grouped into weighted average quality indicators (4).

$$
Q_j = \frac{\sum \bar{Q}_i}{3} W_j
$$
where $Q_j$ – average quality factor for the $j$-th criterion ($j = 1...5$); $3$ – the number of questions for each of the criteria; $W_j$ – weight, assessment of the importance of the criterion.

To calculate the significance parameter, you must first translate all customer ratings into a ten-point system, then find the average value for each of the criteria.

Next, we calculate the global quality factor ($Q$), find the average value of the indicators for all five criteria (5):

$$Q = \frac{\sum Q_j}{5}$$

(5)

3. Results and discussion

The tables presented below (tables 1, 2) reflect the results of our research and provide an assessment of the quality of services provided in the field of agrotourism, carried out according to the methodology presented above. In total, more than 100 people participated in the interviewing during the study period.

Table 1. Calculation of expectations, perceptions and quality coefficients according to the proposed methodology.

| Question code | Expectation rating | Perception rating | Quality factor |
|---------------|--------------------|-------------------|----------------|
| Tang1         | 2.7                | 2.6               | -0.1           |
| Tang2         | 2.5                | 2.7               | 0.2            |
| Tang3         | 2.0                | 2.3               | 0.3            |
| Reli1         | 2.9                | 2.9               | 0.0            |
| Reli2         | 2.8                | 2.8               | 0.0            |
| Reli3         | 2.6                | 2.7               | 0.1            |
| Resp1         | 2.8                | 2.7               | -0.1           |
| Resp2         | 2.7                | 2.5               | -0.2           |
| Resp3         | 2.1                | 2.5               | 0.4            |
| Assu1         | 2.6                | 2.7               | 0.1            |
| Assu2         | 2.7                | 2.9               | 0.2            |
| Assu3         | 2.1                | 2.9               | 0.8            |
| Empa1         | 2.2                | 2.9               | 0.7            |
| Empa2         | 2.5                | 2.9               | 0.4            |
| Empa3         | 2.7                | 2.8               | 0.1            |

Table 2. Calculation of weighted average quality indicators.

| Criterion code | Average quality factor | Evaluation of the importance of the criterion | Weighted average quality factor |
|----------------|------------------------|----------------------------------------------|--------------------------------|
| Tang           | 0.134                  | 1.89                                         | 0.253                          |
| Reli           | 0.034                  | 1.45                                         | 0.049                          |
| Resp           | 0.034                  | 2.33                                         | 0.079                          |
| Assu           | 0.367                  | 2.00                                         | 0.734                          |
The global quality factor was 0.410. The lower the coefficient obtained – the more expectations coincide with the perception of real services.

The positive value of the indicator indicates that the perception of services by customers as a whole exceeded their expectations.

According to the five criteria, the situation is as follows: the average quality coefficients are close to zero and have a positive value, that is, here, too, the perception exceeded the expectations of customers. The assessment of the perception of the reliability criterion and responsiveness almost coincides with expectations (the coefficient is 0.034), so the weighted average value was close to zero (0.049 and 0.079, respectively).

With respect to the individual values of the fifteen parameters, the following can be distinguished, for which the greatest positive deviations are observed (i.e., the reality has exceeded expectations): customer support from employees (Assu3), individual approach to customers (Empa1), friendly attitude to consumers (Empa2), convenient opening hours (Resp3).

The opposite situation applies to the indicators: efficiency in work (Resp2), timely information (Resp1), the level of technical equipment (Tang1), where the expectations of customers were not met. With respect to these parameters, the work can be improved.

4. Conclusion
In general, the analysis of the results of the study using the proposed methodology allows us to draw conclusions about the compliance of customer expectations and perceptions, as well as the overall level of service delivery, but by analyzing the indicators of individual criteria, we can conclude that there is a need to improve work in certain areas.

Thus, when using the method of assessing the quality of services in the field of agrotourism, based on the SERVQUAL model, it is possible to obtain objective data on its level and consumers perception of individual product characteristics, which will allow taking timely management decisions to prevent and eliminate problems that have already arisen, as well as in general to improve the level and quality of service and its effectiveness.

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