MEASURING SERVICE QUALITY OF AGRICULTURAL EXTENSION CENTERS IN ASSIUT GOVERNORATE USING SERVPERF SCALE
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ABSTRACT

The aim of this research is to measure and evaluate service quality of the agricultural extension centers in Assiut governorate using SERVPERF scale and its weighted version (importance-weighted SERVPERF). The study was conducted on 119 farmers distributed equally on the 17 extension centers of Assiut governorate. The results showed that although the respondents’ overall view of the performance of service quality dimensions is high, the perceptions in all quality dimensions did not meet its maximum scores. This means that farmers seek more from extension centers than the extension centers actually offer. Therefore, these extension centers need to make improvements in all dimensions to close the gaps that could lead to increase farmers’ satisfaction.

Keywords: Extension Centers, Service Quality, SERVQUAL, SERVPERF

INTRODUCTION

Organizations are seeking to improve the level of its services to reach the degree of excellence, which is a demand for both service providers and beneficiaries alike. There is a variety of strategies to improve organizational performance, the most important of these strategies is service quality as a strategic task to satisfy the wishes of consumers and meet their requirements, needs and expectations. So, quality is the most important issues to concern about in order to raise the level of performance in terms of productivity and services (Abbas, 2005). Abari et al. (2011) have the same opinion that all types of organizations are in search for attaining a desirable quality. Daniel & Berinyuy (2010) indicated that service organizations have begun focusing on the customer perceptions of service quality because it helps in developing strategies that lead to customer satisfaction. Singh & Khanduja (2010) stated that the starting point in developing quality of services is the measurement, because it allows for comparing between the before and after changes, for identifying of quality related problems and for establishing clear standards for service delivery.

Ruhana (2010) pointed out that measuring service quality is of greater importance in service organizations such as agricultural extension organization, which has to be concerned with the quality of its services. That is because of the vital role of agricultural extension in the development of agriculture, rural poverty alleviation and in enhancing food security. Besides that the quality of agricultural extension services is one of the most important indicators of agricultural extension as a whole.
While there have been efforts to study service quality, there has been no common agreement on the measurement of the concept (Singh & Khanduja, 2010). Numerous authors (Babakus and Boller, 1992; Brady et al., 2002; Law et al., 2004) have supported the view that SERVPERF is a better alternative for measuring service quality. In keeping with their arguments, SERVPERF and its weighted version (Cronin and Taylor, 1992) were used in this study to measure and evaluate service quality of Agricultural Extension Centers in Assiut Governorate, Egypt. In the following, after an outline of the service quality concept and importance, Service quality measurement and the SERFPERF scale are demonstrated, then a brief of agricultural extension centers, later, after methodology and results, major conclusions are derived.

Literature Review

The concept and importance of Service Quality

According to Johns (1999), a service could mean an industry, a performance, an output, an offering or a process and it is defined differently in various service industries. The differences in service industries are based on the characteristics of service which include; intangibility, heterogeneity, perishability and inseparability. Parasuraman et al. (1988) stated that these aspects of service make it very difficult to measure service quality unlike product quality which could be measured objectively using factors such as durability and defects because of its tangible nature.

There are major distinctions between a service and a product. These differentiations are the intangible nature of a service – it cannot be touched, held, and so on-, the consumption of a service involves the interaction between the producer and the consumer and services are produced and consumed simultaneously (Naik et al., 2010). Quality has been considered as being an attribute of an entity (as in property and character), an essential character of a product or a person (as in nature and capacity), a degree of excellence (as in grade) and as a social status (as in rank and aristocracy) and in order to control and improve its dimensions it must first be defined and measured (Ghylin et al., 2008).

There are several different "definitions" as to what is meant by service quality. The one that is commonly used defines service quality as the extent to which a service meets customers’ needs or expectations (Dotchin and Oakland, 1994). Service quality can thus be defined as the difference between customer expectations of service and perceived service. If expectations are greater than performance, then perceived quality is less than satisfactory and customer dissatisfaction occurs and a service quality gap materializes (Parasuraman et al., 1985). As opposed to the difference between the consumers’ perceptions and their expectations, service quality is based only on consumers’ perceptions of the performance of a service provider (Cronin and Taylor, 1992). Customers perceive services in terms of its quality and how satisfied they are with their overall experience (Wilson et al., 2011).

Lewis et al. (1994) identified a number of possible benefits service organizations can look forward to when they pursue service quality. Service organizations are competing to achieve sustainable competitive advantage through providing a high-quality service to their existing customers in a
severely competitive environment. This has led to a continued focus on service quality. Organizations have recognized a number of benefits derived from implementing service quality programs, including customer satisfaction, customer retention, customer loyalty and positive word-of-mouth, employee benefits, improved corporate image, profit gains, and financial performance.

**Service Quality Measurement**

In the 1980s, the impetus to measure and evaluate service quality arose from the marketing discipline. Recognizing the centrality of customer perceptions of service quality, academicians sought to devise methods to assess customer views of quality service empirically (Cook & Thompson, 2000). Different scales for measuring service quality have been put forward; the most popular scales used to measure service quality are SERVQUAL – Service Quality (Parasuraman *et al.*, 1988) and SERVPERF – Service Performance (Cronin & Taylor, 1992).

SERVQUAL is based on the perception gap between the received service quality and the expected service quality. It consists of 22 pairs of items: one member of each pair assessing the customer's expectations, the other assessing perceptions of service quality. Service quality is determined by calculating the difference between expectations and perceptions for each item. Calculating the difference between the 22 items each of five dimensions forms the service quality measure. Those five dimensions, that are proposed to be common to any service are: Tangibles (Physical evidence of the service); Reliability (The ability to perform the promised service dependably and accurately); Responsiveness (The willingness and readiness of employees to help customers and to provide prompt service); Assurance (The knowledge and courtesy of employees and their ability to convey trust and confidence); Empathy (The provision of caring and individualized attention to customers). SERVQUAL measures service quality by finding the difference between customer perceptions (P) and expectations (E). This difference is the service quality gap \( Q = P - E \) (Parasuraman *et al.*, 1985; 1988). The wider the gap, the poorer the service quality is viewed by the customers.

Despite its extensive application, the SERVQUAL scale has been criticized on various conceptual and operational grounds. Several issues have been raised with regard to the use of \( P - E \) gap scores. The ability of SERVQUAL scores to provide additional information beyond that already contained in the perception component of service quality scale is under doubt (Babakus and Boller, 1992; Jain & Gupta, 2004). Abdullah (2005) stated that a number of studies also do not support SERVQUAL scale developed by Parasuraman *et al.* (1988), and including expectation items in the measurement is considered as unnecessary. Furthermore literature review and the analysis of the structural models suggest that SERVQUAL conceptualization is in fact flawed: it is based on a satisfaction paradigm rather than on an attitude model (Cronin and Taylor, 1992). The validity of \( P - E \) measurement framework has also come under attack due to the problems with the conceptualization and measurement of expectation component of the SERVQUAL scale (Jain & Gupta, 2004).
Due to the criticisms and disagreements towards the SERVQUAL scale, Cronin and Taylor (1992) developed a performance-based scale to measure service quality, which was labeled as SERVPERF. The SERVPERF scale is the unweighted perception of SERVQUAL scale, whereby the 22 expectation items of the SERVQUAL scale were excluded. By testing on the four service industries namely, banking, pest control, dry cleaning, and fast food, they revealed that the unweighted SERVPERF scale provides better results compared to SERVQUAL scale and has greater predictive power.

Subsequent to the publication of Cronin and Taylor’s (1992) findings, a number of scholars have arrived at similar conclusions with respect to the superiority of performance measures, these studies maintain that perception scores alone could explain service quality performance since ratings on expected service, which is based on memory, may be biased by actual services received and may not measure performance correctly (Teas, 1993; Cronin and Taylor, 1994; Brady et al., 2002). More specifically, Babakus and Boller’s (1992) findings suggest that the expectation portion of the SERVQUAL scale adds “no additional information” beyond that which is obtained from performance perceptions alone. Even Zeithaml (one of the founders of the SERVQUAL scale) later reported that service quality is directly influenced only by perceptions of performance (Boulding et al., 1993).

Since service quality attributes are not expected to be equally important across service industries, it has been suggested to include importance weights in the service quality measurement scales (Cronin and Taylor, 1992; Parasuraman, Berry and Zeithaml, 1991). Between weighted versions of two scales, weighted SERVPERF scale has been theoretically posited to be superior to weighted SERVQUAL scale (Bolton and Drew, 1991). Cronin & Taylor (1992) identified four important equations that summarized SERVQUAL, SERVPERF and the weighted versions of the two scales as follows:

SERVQUAL = Performance – Expectations
Weighted SERVQUAL = importance x (performance – expectations)
SERVPERF = performance
Weighted SERVPERF = importance x (performance).

**Agricultural Extension Centers**

From the starting point of the pivotal role that can be played by agricultural extension in the process of rural development, the Ministry of Agriculture and Land Reclamation decided in 1995 to diffuse the agricultural extension centers at the village level to work as a basic unit of Egyptian agricultural extension system (Shaker et al., 2003). Extension centers were established in Egyptian villages to the following reasons: supporting and developing the infrastructure of extension work in Egypt, providing extension services to the village level, to be a place of extension specialists and to improve extension services in general. Each center has a director with a group of extension specialists in various areas of agricultural activities. Each center contains a training hall furnished and supplied with audio & video aids for extension meetings, each hall equipped with a computer, a library for the agricultural pamphlets, magazines, books, videos, and CDs (Central Administration for Agricultural Extension, 2010). There are several key roles...
of agricultural extension centers that can be summarized as follows: the planning role is to identify the local community resources and priorities and to plan of the agricultural extension programs, the supporting role is to contribute in solving the agriculture problems and discovering rural leaders, the coordinating role is to coordinate among rural organizations inside the local community, and the educational role is to supply farmers with agricultural information and involving them in rural extension programs (Zahran, 1998).

Methodology

The aim of this research is to measure and evaluate service quality of the agricultural extension centers in Assiut governorate using SERVPERF and importance-weighted SERVPERF developed by Cronin & Taylor (1992). There are 17 agricultural extension centers in Assiut governorate. Every extension center has a register for farmers who pay office visits to the center. The population of this study is the number of farmers in these registers during the second half of the year 2011 (1193 farmers). The study was conducted on a sample of 10% (119 farmers distributed equally on the 17 extension centers) of the above mentioned population. The farmers were randomly selected by SPSS (version 15) from the registers of the extension centers. Data were collected during the period from February to March 2012 using an especially designed questionnaire. Farmers' perceptions and importance for each service quality item were measured on a 5-point Likert scale ranging from 5 for 'strongly agree' to 1 for 'strongly disagree'. Data was analyzed using SPSS software to calculate means of perceptions and importance for service quality items and dimensions. The reliability of the questionnaire was estimated by Cronbach alpha (perceptions 0.89, and importance 0.84) by SPSS software.

RESULTS AND DISCUSSION

Table 1 shows that the respondents' overall view of the importance of service quality dimensions on a scale of 1 to 5 is 4.47, which is relatively high and implies that farmers concern about all dimensions of service quality. Looking at the dimensions in same table, it could be noticed that the all the degrees of importance dimensions are clearly high since they are all above 4. Considering farmers' perception of service in extension centers, it can be realized that farmers' view of the importance of service quality dimensions are more than their perceptions of service performance. Tacitly, farmers are hardly satisfied since the average perception score is 3.94 which is 78.88% of the total score and indicating that extension centers need to work hard to cover up the 21.12%.

For performance appraisal of extension centers' service quality, table 1 shows that assurance has the highest score (4.08), and tangibles has the lowest score (3.64). For importance appraisal, responsiveness has the highest score (4.53) and tangibles has the lowest score (4.28). Then, importance-weighted SERVPERF can be calculated, it can be realized
that reliability has highest points (18.35) and tangibles has lowest points (15.57).

Although the respondents’ overall view of the performance of service quality dimensions is high (3.94), it can be observed, from the same table, that all farmers need more from extension centers than the extension centers actually offer. This is evident from the negative average gap score of -1.06 between perceived performance (P) and maximum attainable score of 5, showing that perceptions in all quality dimensions did not meet its maximum scores (all gaps for all dimensions are negative). Dimensions that reported larger gaps were tangibles (-1.36), empathy (-1.90) and responsiveness (-1.05), while smaller mean gaps obtained were assurance (-0.92), and reliability (-0.93).

Table 1: SERVPERF and Importance-Weighted SERVPERF scores of the five quality dimensions

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>SERVPERF (P)</th>
<th>Maximum score</th>
<th>Gap (P - M)</th>
<th>Importance</th>
<th>Weighted SERVPERF I(P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibles</td>
<td>3.64</td>
<td>5</td>
<td>-1.36</td>
<td>4.28</td>
<td>15.57</td>
</tr>
<tr>
<td>Reliability</td>
<td>4.07</td>
<td>5</td>
<td>-0.93</td>
<td>4.51</td>
<td>18.35</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>3.95</td>
<td>5</td>
<td>-1.05</td>
<td>4.53</td>
<td>17.89</td>
</tr>
<tr>
<td>Assurance</td>
<td>4.08</td>
<td>5</td>
<td>-0.92</td>
<td>4.49</td>
<td>18.31</td>
</tr>
<tr>
<td>Empathy</td>
<td>3.91</td>
<td>5</td>
<td>-1.09</td>
<td>4.41</td>
<td>17.24</td>
</tr>
<tr>
<td>Average score</td>
<td>3.94</td>
<td>5</td>
<td>-1.06</td>
<td>4.47</td>
<td>17.61</td>
</tr>
</tbody>
</table>

Respondents' perception of all items of service quality took part in table 2. Concerning the tangibles dimension, the highest SERVPERF score appears in the item associated with the neatness of employees (4.05) while the lowest score (3.32) appeared in the newness of equipment. Regarding the reliability dimension, the highest SERVPERF score was for performing the service right at first time (4.41), while the least score (3.74) for the fulfillment of promises at the designated time. With respect to the responsiveness dimension, the highest SERVPERF score for employees’ willingness to help (4.22), while the least score (3.77) was for non-busy employees for immediate response to the requests of farmers. About the assurance dimension, the largest SERVPERF score appears for the politeness of employees (4.42), while the lowest score was for the item of training and knowledge of employees which enable them to answer the questions of farmers (3.86). Finally, the largest score in the empathy dimension was for caring farmers’ best interests (4.17), while the least score (3.65) was located in front of the item of dealing with farmers individually. As shown in the same table, despite the high SERVPERF scores in all dimensions which ranged from 3.32 to 4.42, service quality gaps are actualize between perceived performance (P) and maximally attainable score of 5 for all items.

If importance scores are also taken into account as is the case with the importance-weighted SERVPERF, It can be noticed from the same table that there’s an agreement between SERVPERF and importance-weighted SERVPERF about the items that have the largest scores inside all
dimensions of service quality. On the other hand, SERVPERF and importance-weighted SERVPERF differ in the least scores inside two dimensions of service quality (Reliability and Assurance), and agreed about the least scores inside the other three dimensions.

Table 2: SERVPERF and Importance-Weighted SERVPERF scores of the items in the five quality dimensions

<table>
<thead>
<tr>
<th>No</th>
<th>Dimensions</th>
<th>Items</th>
<th>P</th>
<th>Gap</th>
<th>I</th>
<th>I(P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tangibles</td>
<td>Up to date equipment</td>
<td>3.32</td>
<td>1.68</td>
<td>4.67</td>
<td>15.50</td>
</tr>
<tr>
<td>2</td>
<td>Tangibles</td>
<td>Physical facilities</td>
<td>3.42</td>
<td>1.58</td>
<td>4.65</td>
<td>15.90</td>
</tr>
<tr>
<td>3</td>
<td>Tangibles</td>
<td>Neatness of employees</td>
<td>4.05</td>
<td>0.95</td>
<td>4.10</td>
<td>16.60</td>
</tr>
<tr>
<td>4</td>
<td>Tangibles</td>
<td>The appearance of Physical facilities</td>
<td>3.78</td>
<td>1.22</td>
<td>4.37</td>
<td>16.51</td>
</tr>
<tr>
<td>5</td>
<td>Reliability</td>
<td>Promise to do something on time</td>
<td>3.74</td>
<td>1.26</td>
<td>4.59</td>
<td>17.16</td>
</tr>
<tr>
<td>6</td>
<td>Reliability</td>
<td>Being sincere to solve problems</td>
<td>4.08</td>
<td>0.92</td>
<td>4.68</td>
<td>19.09</td>
</tr>
<tr>
<td>7</td>
<td>Reliability</td>
<td>Performing the service right at first time</td>
<td>4.41</td>
<td>0.59</td>
<td>4.62</td>
<td>20.37</td>
</tr>
<tr>
<td>8</td>
<td>Reliability</td>
<td>Providing services at promised time</td>
<td>4.10</td>
<td>0.90</td>
<td>4.50</td>
<td>18.45</td>
</tr>
<tr>
<td>9</td>
<td>Reliability</td>
<td>Keeping records correctly</td>
<td>4.01</td>
<td>0.99</td>
<td>4.15</td>
<td>16.64</td>
</tr>
<tr>
<td>10</td>
<td>Responsiveness</td>
<td>Telling farmers exactly what they do</td>
<td>3.93</td>
<td>1.07</td>
<td>4.52</td>
<td>17.76</td>
</tr>
<tr>
<td>11</td>
<td>Responsiveness</td>
<td>Prompt services to farmers</td>
<td>3.85</td>
<td>1.15</td>
<td>4.59</td>
<td>17.76</td>
</tr>
<tr>
<td>12</td>
<td>Responsiveness</td>
<td>Employees' willingness to help</td>
<td>4.22</td>
<td>0.78</td>
<td>4.63</td>
<td>19.53</td>
</tr>
<tr>
<td>13</td>
<td>Responsiveness</td>
<td>Employees oblige the requests of farmers</td>
<td>3.77</td>
<td>1.23</td>
<td>4.28</td>
<td>16.13</td>
</tr>
<tr>
<td>14</td>
<td>Assurance</td>
<td>Employees are trustworthy</td>
<td>4.02</td>
<td>0.98</td>
<td>4.57</td>
<td>18.37</td>
</tr>
<tr>
<td>15</td>
<td>Assurance</td>
<td>Feeling safe in transactions</td>
<td>4.01</td>
<td>0.99</td>
<td>4.25</td>
<td>17.04</td>
</tr>
<tr>
<td>16</td>
<td>Assurance</td>
<td>Employees are polite</td>
<td>4.42</td>
<td>0.58</td>
<td>4.61</td>
<td>20.37</td>
</tr>
<tr>
<td>17</td>
<td>Assurance</td>
<td>Knowledgeable employees</td>
<td>3.86</td>
<td>1.14</td>
<td>4.47</td>
<td>17.25</td>
</tr>
<tr>
<td>18</td>
<td>Empathy</td>
<td>Dealing with farmers individually</td>
<td>3.65</td>
<td>1.35</td>
<td>4.22</td>
<td>15.40</td>
</tr>
<tr>
<td>19</td>
<td>Empathy</td>
<td>Employees' personal attention to farmers</td>
<td>3.66</td>
<td>1.34</td>
<td>4.44</td>
<td>16.25</td>
</tr>
<tr>
<td>20</td>
<td>Empathy</td>
<td>Being able to know farmers' needs</td>
<td>4.15</td>
<td>0.85</td>
<td>4.59</td>
<td>19.04</td>
</tr>
<tr>
<td>21</td>
<td>Empathy</td>
<td>Caring farmers' best interests</td>
<td>4.17</td>
<td>0.83</td>
<td>4.65</td>
<td>19.39</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td>Convenient operating hours</td>
<td>3.89</td>
<td>1.11</td>
<td>4.09</td>
<td>15.91</td>
</tr>
</tbody>
</table>

Conclusion

Based on the results obtained, the extension centers under consideration are deficient in respect of all dimensions of service quality. The perceptions in all quality dimensions did not meet its maximum scores (all gaps for all dimensions are negative). This makes negative gaps indicating that farmers look for more than what extension centers are actually offering in terms of the quality of services. In this regard, farmers are not fully satisfied with any dimension of service quality.

General implication for the examined centers is that they should focus on all dimensions of service quality and make efforts to improve them in order to have better performance that would lead to higher perceived service quality and farmers' satisfaction. Because of time and resources constraints, the examined centers need to prioritize quality deficient areas. This can be
done in two ways: either on the basis of performance scores (lower scores pointing to higher priority for intervention) or on the basis of the implied gap scores between perceived performance (P) and maximally attainable score of 5 (with higher gaps implying immediate interventions). The examined centers can pick up one or a few areas for intervention depending on the availability of time and financial resources.

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قياس جودة الخدمة المقدمة من المراكز الإرشادية الزراعية بمحافظة أسيوط

SERVPERC

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هدف البحث قياس وتقييم جودة الخدمة المقدمة من المراكز الإرشادية الزراعية بمحافظة أسيوط باستخدام مقياس SERVPERC (Priority-Weighted) بناءً على دراسة قامت بها أ.د. محمد حسن عبد العال دراسة في 101 مزارع موزعين بالتساوي على المراكز الإرشادية. أظهرت النتائج أن المزارع المحرومين حول جودة الخدمة المقدمة بالفعل من المراكز الإرشادية، إلا أن تغلب الدراجات كانت أقل من الدراجة القصوى على مستوى جميع أعداد الجوام الأسوأ. وهذا يعني أن الزراع المحرومين ينتظرون المزيد من المراكز الإرشادية فيما قدمت تلك المراكز بالفعل على مستوى جميع أعداد الجوام الأسوأ. وذلك، فإنه يجب على المراكز الإرشادية المدروسة العمل على تحسين جمع أعداد الجوام وذلك لسد تلك الفجوات بما يمكن من زيادة رضا الزراع عن الخدمات المقدمة لهم من تلك المراكز الإرشادية.

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