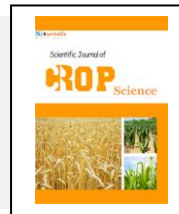


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CROP ScienceJournal homepage: www.Sjournals.com**Original article****Evaluate the quality of ict service provided by rural ICT offices using servqual model****M.S. Ebrahimi*, F. Farhadi***Rural development department, College of Agriculture, Isfahan University of Technology, Isfahan, Islamic Republic of IRAN.*

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ABSTRACT

Identify gaps in service quality can be the basis for planning, prioritize and make decisions about allocating resources. In rural ICT offices could be provided the various government services such as: telecommunications services, Post, Post Bank, and etc. Examining the gap between expectations and perceptions of quality of ICT service provided by rural ICT offices could be improved the quality of services. This study aims was conducted to evaluate the quality of ICT service provided by rural ICT offices using SERVQUAL model, field sampling from the perspective of the villagers. The statistical population of this study was the households villagers in rural areas that have the rural ICT offices (N= 4660). Using Cochran's formula the statistical sample was selected 188 people and the necessary data was collected through a questionnaire. The results of research showed that the services provided by rural ICT offices could be covered properly the expectations and perceptions villagers in five dimensions: physical, responsiveness, reliability, assurance and empathy. The maximum amount gaps were observed in physical (0.6), responsiveness (0.53), reliability (0.48), and empathy (0.29) and assurance (0.1) respectively. The results of research showed that the gaps between expectations and perceptions of the physical, responsiveness and reliability dimension were significant at 99% level. Also in empathy dimension the difference between expectations and perceptions was significant at the 95% level. While

the results of research showed that was a not significant difference between expectations and perceptions in ensured dimension for service provided by rural ICT offices.

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1. Introduction

Information and Communication Technology (ICT) consists of some latest technologies such as the computer, internet, cell phone and satellite. Older technologies like radio, television, telephone and technology centers, employers, and investment are also in this zone .are also in this zone (Alavion & Allahyari, 2012). The ICT centers are public places where people can use computers, the internet, and other media; get training; and obtain a variety of other communication-related services. The ICT centers were also to create an enabling environment for research and tele-working to increase employment opportunities. (Alibaygi & et al, 2011). The quality is a set of features of the product or service which is capable of complying with the explicit or implicit needs. In most of the definitions, the most important factor is the customers satisfaction and meeting their demands. Based on the Parasurmans perspective, the service quality is the size and the difference between the customers perceptions and expectations of the service (Enayati & et al 2013). Each organization is trying to provide the best quality to its clients. Moreover, the expectation of the customer from the service can vary noticeably based on a range of factors like prior experience, personal needs and the other people's experience. This may lead to expand the gap between expectations and perceptions of a customer (Akbab. 2006). SERVQUAL model that is most widely used instrument in measuring service quality. This scale is divided into two parts as expectations and perceptions and each part has 22 items (Aydemir & Gerni ,2011). Since modern technology has caused the service industry to skyrocket along the trade and business, quality management has become more and more important. Barriers such as service disappearance, inseparability of service from its provider, location and occasion of services, have led the service quality to be related to ambiguous and relative parameters (Saraei & Amini, 2012). It is generally believed that rural ICT offices are able to provide services to rural villagers takes to cover the daily commute into the city to receive services thus the present study sought to examine the expectations and satisfaction with the services offered in the villagers viewpoint.

Quality is the keyword for survival of organizations in the global economy. Organizations are undergoing a shift from a production-led philosophy to a customer-focused approach. Competitiveness of a firm in the post-liberalized era is determined by the way it delivers customer service (Rahman & et al, 2011). Service quality is an abstract and elusive construct because of three features unique to the service delivery intangibility, heterogeneity and inseparability of production and consumption. Unfortunately, none of these features can be measured using traditional performance measures since they are based on manufacturing products that are tangible, homogeneous and separable from their production and consumption (Kang & Bradley, 2002).Study of service quality began in 1980 when Gronroos(1984) developed the first model tome a sure service quality. He identified three components of service quality; the technical quality is concerned with what is delivered (outcome), the functional quality deals with the process of service delivery (how it is delivered) and the image quality which is identified as corporate image of company resulting from both technical land functional qualities of service components(Saraei & Amini, 2012).

The evaluation of quality for services is complex because of their intrinsic nature of heterogeneity, inseparability of production and consumption, perishability and intangibility .The evaluation of quality for services is complex because of their intrinsic nature of heterogeneity, inseparability of production and consumption, perishability and intangibility (Frochot & Hughes, 2000).Thus measuring the quality of a service can be a very difficult exercise. Moreover, the expectation of the customer from the service can vary noticeably based on a range of factors like prior experience, personal needs and the other people's experience. This may lead to expand the gap between expectations and perceptions of a customer (Akbab. 2006). Previous models have conceptual, theoretical and measuring difficulties and developed the evaluated performance model which measures the gap between perceived performance and the ideal amount of a dimension of service quality, rather than the customer's expectation (Saraei & Amini, 2012). The SERVQUAL scale is a survey instrument which claims to

measure the service quality in any type of service organization on five dimensions which are tangibles, reliability, assurance, responsiveness and empathy (Parasuraman & et al., 1988). The SERVQUAL scale was developed by Parasuraman et al. in 1985, and refined in 1988, 1991 and 1994. Realizing the significance of service quality for survival and success of service companies and the need for a generic instrument which would be used to measure service quality across a broad range of service categories (Akbab, 2006).

2. Materials and methods

The SERVQUAL scale is a survey instrument which claims to measure the service quality in any type of service organization on five dimensions which are tangibles, reliability, assurance, responsiveness and empathy (Parasuraman & et al., 1988). These methods can be broadly categorized in two groups, as incident-based or attribute-based service quality measurement methods. The incident-based methods utilize the incidents that customers experience in service contact situations. Attribute-based methods exist in a wide range of variants. Among these variants, the SERVQUAL instrument has attracted the greatest attention as a result of its claim of being able to measure the relevant dimensions of the perceived service quality, regardless of which service industry is being considered (Akbaba, 2006). SERVQUAL is a measurement tool for service quality that aim to measure service quality (Git & Sulaiman 2012). Parasuraman and et al developed a multiple-attribute model called SERVQUAL for measuring service quality. This model measures service quality using five distinct dimensions that can be considered as indicators of construct of perceived service quality. The five dimensions of SERVQUAL are "Tangibles", "Reliability", "Responsiveness", "Assurance", and "Empathy" as described in Table 1.

Table 1
five distinct dimensions in SERVQUAL model.

Dimension	Description
Tangibles	The appearance of physical facilities, equipment, personnel and communication materials
Reliability	The ability to perform the promised service dependably and accurately
Responsiveness	The willingness to help customers and provide prompt service
Assurance	The knowledge and courtesy of employees and their ability to convey trust and confidence
Empathy	The caring, individualized attention the firm provides its customers

A self-administered questionnaire, an adapted/modified version of SERVQUAL, was used in this study. The initial instrument consisted of 44 items capturing the 10 dimensions refined and condensed to a purified instrument that consisted of 20 sets of expectation and perception measuring items and five dimensions. Statements in both sections used a five-point Likert scale ranging from "Strongly Agree" (5) to "Strongly Disagree" (1), with no verbal labels for the intermediate scale points (i.e., 2 through 4) to measure the intended area. The resultant five dimensions and their definitions were:

- Tangibles: Physical facilities, equipment, and appearance of personnel.
- Reliability: Ability to perform the promised service dependably and accurately.
- Responsiveness: Willingness to help customers and provide prompt service.
- Assurance: Knowledge and courtesy of employees and their ability to inspire trust and confidence.
- Empathy: Caring, individualized attention the firm provides its customers.

A pilot test was undertaken to assess the reliability of the attributes, and to ensure that the wordings of the questionnaire were clear. Twenty questionnaires were completed by the guests in accompaniment of researcher. Some problems were identified with the wordings and implications of some questions, so some minor revisions were made to avoid confusion. Validity and reliability of the adapted/modified scale were established. Validity tests how well an instrument that is developed measures the particular concept it is supposed to measure. Reliability of a scale on the other hand indicates the stability and consistency with which the instrument measures the concept and helps to assess the goodness of a measure (Sekaran, 2000). To have an idea on the internal consistency among the items and on the convergent validity of the overall scale, a reliability analysis was employed. Within-scale factor analyses were used to ensure that all indicators in the scale measure the same construct. This process is known as construct validity. Reliability analysis was also applied to test the internal consistency of each of the expectation and perception attributes. Cronbach's alpha coefficient was used to

determine the reliability of the questionnaire, which is a value between zero and one and an alpha level above 0.5 reliability questionnaire will be accepted. Alpha level of each dimension separately in Table 3 is obtained. The reliability and validity of the questionnaire were checked based on the expectation and perception of the users, where as the reliability of SERVQUAL scale was estimated in five categories based on Cronbach's alpha formula. The results were shown in Table 2. The questionnaire was used then in two stages. In stage one the users were asked to express their expectations on the quality of services. The statements of this part were coined in such a way that they express a desire of the respondents for a particular attribute of service quality. In second stage the users were asked to judge the ongoing quality of services according to their perceptions.

Table 2
The reliability of SERVQUAL questionnaire on five scales to estimate quality.

	Level of service quality Cronbach's alpha ratio	
	Perceptions	Expectations
Tangibility	0.78	0.827
Credibility	0.75	0.840
Accountability	0.89	0.91
Assurance	0.83	0.88
Empathy	0.81	0.89

The Statistical Package for the Social Sciences version 18.0 was used to analyze the data. Descriptive statistics analysis was used to measure customers' expectation and perception scores t-test was carried out to test the significant difference between the two means of expectations and perceptions. Statistical populations of 4460 rural households using Cochran formula, 188 cases were selected as samples and using questionnaire to a stratified distributed to the population.

Results

Respondents in this study included rural residents' in areas that this village has the rural ICT centers that the total population size was 188 people. Demographic results of the study showed that which 39.8% were male, 62.5% female and the respondents' mean age was 34 years old. About 34.6% of them finished primary school, only 46.9% finished high school and 16.5% have the higher education.

Table 3
Profile of respondents (n=188).

Variables		Frequency (s)	Percentage of total (%)
Gender	Male	75	39.8%
	Female	113	62.5%
Age	19–25	37	19.68%
	26–32	21	11.17%
	33–39	51	27.12%
	40–46	48	25.53%
	47–53	23	12.23%
	54 and over	8	4.2%
Education	Primary school	65	34.57%
	High school	92	46.93%
	Higher education	31	16.48%

The results of research showed that for each service dimension based on SERVQUAL model, (considering the table 4) there was gap in every aspect of service quality. There was a quality gap in all service quality dimensions and the related measuring phrases.

Table 4

Values for each attribute obtained through analysis.

Attributes	Expectations means (SD)	Perceptions means (SD)	(PM-EM)
Tangibles	2.75	3.53	0.6
Reliability	2.87	3.51	0.48
Responsiveness	2.78	3.31	0.53
Assurance	3.08	3.18	0.10
Empathy	2.89	3.18	0.29

Note: SD represents standard deviation; PM represents perception mean; EM represents expectation mean.

The result of research showed that the highest average of quality gap was observed in the tangibles (0.6) and then in responsiveness (0.53), reliability (0.48) and empathy (0.29) respectively. The lowest average belonged to assurance (0.10). T-test was used to test the hypotheses; the results can be seen in Table 5.

Hypothesis 1: there are gap between expectation and perception of rural ICT offices services in physical dimension.

Hypothesis 2: there are gap between expectation and perception of rural ICT offices services in reliability dimension.

Hypothesis 3: there are gap between expectation and perception of rural ICT offices services in responsiveness dimension.

Hypothesis 4: there are gap between expectation and perception of rural ICT offices services in empathy dimension.

Hypothesis 5: there are gap between expectation and perception of rural ICT offices services in assurance dimension.

T-test results indicate that the first, second, third and fourth hypothesis rejected and in four dimensions (physical, reliability responsiveness and empathy dimensions) there was a significant difference between the expectations and perceptions in rural ICT center services. T-test results indicate that the five hypotheses (assurance dimension) accept therefore there was no significant difference between expectations and perceptions of rural ICT center services in assurance dimension.

Table 5

The results of pair tests among perceptions and expectation.

Hypotheses	Mean		P-E	T value	Level of significance	SME	Result
	Expectation	Perception					
First hypotheses	13.8333	16.7583	-2.9250	-9.249	.000	.31626	H0 rejected
Second hypotheses	13.9000	16.5750	-2.6750	-6.036	.000	.44315	H0 rejected
Third hypotheses	14.3750	16.5500	-2.1750	-4.486	.000	.48488	H0 rejected
Fourth hypotheses	14.4583	15.9250	-1.4667	-2.889	.005	.50764	H0 rejected
Fifth hypotheses	15.3667	15.9083	-.5417	-1.160	.248	.46681	H0 accepted

Conclusion and suggestions

The research findings also confirmed that, although the SERVQUAL scale was a very useful tool as a concept, it needed to be adapted for the specific service segments and for the cultural context within which it was used. The result of research showed that the level of service quality in this study, to assess the quality of services provided to customers in rural ICT offices according to the five dimensions of service quality have made. The result of research showed that the highest average of quality gap was observed in the tangibles (0.6) and then in responsiveness (0.53), reliability (0.48) and empathy (0.29) respectively. The lowest average belonged to assurance (0.10).

Also this result confined by the t- test analysis result. T-test results indicate that in physical, reliability responsiveness and empathy dimensions there were significant difference between the expectations and perceptions in rural ICT center services but in assurance dimension there was no significant difference between expectations and perceptions of rural ICT center services in assurance dimension. Since the farmers have little

familiarity with the services provided by rural ICT offices thus their expectations were significantly lower in most aspects of their perception of the services provided by these agencies. Therefore have been seems, if the rural resident awareness could be more about the rural ICT center services, it can be affect their expectations and can be reduce the gap between exception and perception. The research result suggested the awareness about the type and amount of services provided by rural ICT center should be increased by training and education.

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