Assessment of Citizens' Satisfaction in the city of Mashhad from Electronic Payment Systems of Mashhad Municipality using the SERVQUAL Model

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ABSTRACT

The present research tends to identify the gaps between these expectations by identifying the expectations and perceptions of the citizens from the municipal electronic payment services and to offer solutions to fill this gap or diminish it. For this purpose, based on the conceptual model of customer satisfaction of the quality of services of Parasuraman and his colleagues, which is known as SERVQUAL model in the literature of this field, 5 dimensions of tangible, credit, responsiveness, sympathy and trust among 302 customers have been studied and reviewed. The present study is a descriptive survey in terms of applied purpose and data collection method. Library and field studies have been used to collect information. The tool used in field studies is a questionnaire that is designed based on the research model. The validity of the questionnaire was confirmed by experts and Cronbach's alpha coefficient was used to determine its reliability. Paired t-test was used to significantly evaluate the difference between customers' expectations and perceptions of the performance of municipal electronic payment services. The research results indicate that there is a significant difference between customers' expectations and perceptions of all aspects of the SERVQUAL model. It was found that the largest gap between the desired situation and the current situation in terms of response and in the next rank, the sympathy dimension, and in the subsequent ranks, the confidence dimension and the smallest gap in the tangibility dimension, and then in the assurance and guarantee dimension were observed. In terms of importance, the received guarantee is the most important dimension, followed by tangibility, confidence, and sympathy, respectively, and the response dimension is known as the least important dimension for customers, which is a significant difference.

Keywords: *Citizens' satisfaction, electronic payment system, Mashhad Municipality, Performance evaluation, SERVQUAL model*

1. Introduction

The concept of customer satisfaction was first directly and indirectly introduced into the management and marketing literature by Peter Druker in 1954, but a review of sources related to customer satisfaction indicates that new research and studies in this field have mainly been started since the mid-1970s in the United States, and the foundations of this category have been clarified with the considerable expansion of research in the 1980s (1).

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Nowadays, manufacturing or service organizations consider customer satisfaction as an important criterion for measuring the quality of their work and this trend is still increasing (2). Customer importance and satisfaction is something that goes back to global competition. Customers and consumers are always looking for suppliers who offer far better goods or services. Evidence also indicates that in today's competitive world, discovering the needs and wants of customers and meeting them before competitors is a key condition for success for companies.

Companies need to improve their performance in order to achieve a sustainable competitive advantage in a highly competitive business environment to keep customers satisfied. Because the main result of customer satisfaction is customer loyalty, companies with a large share of loyal customers benefit due to increased repurchase rates, high potential buyers, tendency to higher prices, positive recommendation behavior and low replacement costs. As a result of the vital role of customer satisfaction and loyalty, the analysis of the relationship between these variables is generally accepted and should be compared between companies, industries, sectors and nations (3). In recent years, customer satisfaction indicators in different countries, both in the production and service sectors, have been evaluated and measured at the national level. The results of measuring customer satisfaction nationally in many countries have facilitated the way for finding the best and most superior organizations and have easily provided the criteria for making strategic decisions to evaluate and improve the competitive situation (4).

By reason of the development of services in the virtual world today, "electronic city", "smart city", "virtual city" are words that invite electronic citizen to the new world and new life in modern cities. In the middle of the twentieth century, human societies witnessed fundamental and dramatic variations in their style of life and behavior. The man of the third millennium tried to change his lifestyle in the best possible way to improve its quality, and in the meantime, the Internet and electronic services came into being with all their functions and effects (5). The provision of electronic and virtual services is a new and expanding phenomenon in human societies. Because of these developments, in recent decades, a profound change in the organization of labor, economic basis, political rules and even the special nature of industrial societies has emerged and become vital (6). Over time, following the growth of technology, the way urban management services are provided in the world's metropolises has also changed and has always led to greater citizenship and welfare of citizens as well as reduced costs. These virtual urban management services, which are now offered to citizens as electronic city services in our country, have been implemented in developed countries and most major cities in the world, including Stockholm, Istanbul, Kuala Lumpur, etc., which according to the results have high impact on attracting citizens' satisfaction and welfare of their citizens and have been able to achieve many successes in this field (7).

In Iran, the culture of developing e-cities and the Internet is spreading and requires examining the needs of e-city development in metropolitan areas. Therefore, we can use the experiences of other countries to develop this technology in the country's metropolises. Therefore, considering the above and the novelty of providing services in a virtual and non-face-to-face manner of Mashhad city management, citizens' satisfaction is necessary for this management and for city managers, satisfaction with the organization's services is an important and undeniable fact that they cannot ignore. Therefore, this study was conducted by measuring the level of citizens' satisfaction in using the electronic payment system of Mashhad Municipality using the SERVQUAL model (electronic payment of renovation, union and car tolls).

2. Literature Review
2.1. Expectations And Satisfaction

Satisfaction is generally taken to mean an evaluative attitude towards some object or experience (8). There is a large literature on individuals' satisfaction and dissatisfaction with private goods and services (9,10,11,12). Satisfaction with goods and services provided by public bodies has also emerged as a focus of research and a major subject of governmental interest in Organization for Economic Cooperation and Development countries (13,14,15,16). However, most research conducted on satisfaction in the public sector has been undertaken by public bodies themselves and has been directed to informing managerial decisions rather than addressing theoretical questions about expectations.

Expectations are defined in social science literatures in different ways but are usually seen as judgments of what individuals or groups think either will or should happen under particular circumstances. There are literatures on the process of expectation formation, the relationship between individual and average expectations, and whether expectations are rational, which is usually taken as meaning

consistent with some model of the operation of social processes, especially expectations being consistent on average (17). The role of expectations about services has been discussed as a possible influence on satisfaction but there is little systematic empirical work on the topic in the United Kingdom (18,19,20,21,22). However, more systematic research has recently begun to be produced for local services (23,24,25). There are potentially very many ways of thinking about the relationship between expectations, performance, and satisfaction, but this article concentrates on influential approache: Citizens' Satisfaction from Electronic Payment Systems of Mashhad Municipality. Expectations are simply defined as what individuals think the quality of public services should be given the local taxes paid and broader resource context of their local area. The concept of quality is developed from the idea of what an ''excellent'' company should be like which has been used in the influential SERVQUAL model of satisfaction with consumer goods and services (11). The concept of excellence implies a judgment about what are seen as desirable features of a company or service in a particular context and is particularly useful as a benchmark for comparisons with perceptions of actual service provision. Respondents have sometimes been asked what a ''reasonable'' level of public services should be (26).

2.2. Public Service Quality

Improved public service quality has always been one of the principal objectives of the new public management (27). Over the last two decades, there has been considerable development on how to measure service quality, as well as what should be measured. The two predominant approaches to this issue are represented by Gronroos on the one hand, and Parasuraman, et al. on the other. The first approach defines the dimensions of service quality in terms consisting of functional and technical quality, while the second approach defines service quality in terms of the service encounter characteristics of reliability, responsiveness, empathy, assurances, and tangibles (28). Both approaches are based on the disconfirmation paradigm, developed in relation to physical goods, which can be represented in binary terms. The customer is either confirmed in his expectation or he is not, and thus the paradigm can be easily modelled.

2.3. The SERVQUAL Instrument

Building on the conceptual definition of service quality as the gap between customers' expectations and perceptions, Parasuraman, et al. developed and later refined SERVQUAL, a multiple-item scale for measuring customers' expectation and perceptions of service quality (27). SERVQUAL is generally acknowledged to have good reliability and validity. The standard instrument focuses on five service-quality dimensions: tangibles, reliability, responsiveness, assurance, and empathy. However, there are several variant models of SERVQUAL with more, fewer, or different factors. One application of the model divides public service quality into three dimensions: tangibles, capabilities and empathy (29). These three factors were extracted from a factor analysis of data on public service agencies collected using the traditional questionnaire from the SERVQUAL instrument. Although only three components were extracted in that factor analysis, those components are not fundamentally different from the dimensions identified by Parasuraman et al., and they are close to the factors extracted by Durvasula et al. whose measures were also represented by a threedimensional factor structure (27).

2.4. The Application of SERVQUAL

The SERVQUAL scale has been applied to a host of consumer service organizations as well as many aspects of retailing (30,31). The banking industry was one of the constituents used to develop the instrument and it has been applied many times to banking, financial and credit services (32). The instrument has been applied in fields as diverse as international accounting on the one hand, and to rehabilitation services on the other (33). SERVQUAL has been used to measure service quality in the information systems environment. It has been applied to the mainframe software industry where the instrument's reliability and validity scored well with only discriminant validity being problematic. With a simplified scale it has been applied to general information systems, although its application in this area was not without criticism (27). SERVQUAL has found application in the tourism and hospitality sectors. It has even been applied to internal marketing, and used to evaluate employee work quality and satisfaction in higher education environment (34). Research has demonstrated that the variations of the SERVQUAL scale can be used successfully in

measuring service quality for both management advisory services and audit services (35). There is scope for further development and improvement of the instrument. Recently, Wakefield and Blodgett (1999) discussed the integration of environmental psychology with SERVQUAL to enable a fuller assessment of the role of tangible aspects of service delivery. However, it is accepted that SERVQUAL is an adequate instrument for measuring service quality.

In the public sector, the SERVQUAL model has also been applied to measure service quality in the local government and voluntary sectors in the United Kingdom (36). Vaughan and Shiu (2001), as well as Shiu et al. and Donnelly et al., expressed some dissatisfaction with the SERVQUAL instrument.

In recent decades, the development of new technologies and the expansion of communications, competition between manufacturing and service companies have become more serious with the increasing advancement of science and technology. Today, companies' approach to innovation, despite many efforts by these companies, does not lead to sustainable, profitable growth and shareholder satisfaction. Many companies' business plans do not live up to market expectations. Today, quality and customer orientation have been raised as one of the serious competitive challenges, and maintaining and expanding domestic and foreign markets requires the provision of products and services with reliable quality by meeting the needs of customers in the design and production of products or services. Leadership in global markets belongs to organizations that meet the needs of customers or beyond. Martinez, Aspennoal (2001, 576) believe that in today's highly competitive world, the main condition for competition is to provide products and services that meet the needs and wants of the customer. The success of products and services depends on how the products and services meet the needs of customers. Research indicates that between 35% and 44% of the products offered to the market have failed. Obviously, this wastes resources, capital and time. Therefore, the product and service has a value that meets the needs and wants of the customer. In this regard, many concepts in companies and organizations today have found another meaning and consequently have taken on a new role in society (37).

The word "customer" has not escaped from this transformation. Because its concept no longer merely evokes a commercial transaction, but today human relations are understood in a two-way interaction. So that each person is a customer of other people on the one hand and has customers on the other hand. In this age, the key to survival in the long-term competitiveness of organizations is to continually meet the expectations and demands of customers as they think and value them (38); Peter Druker stated in 1954 that customer satisfaction is the only valid definition that can be provided about the purpose of a business organization. Kotler (2000, 156) states that in fact with the increasing growth of technology and its use in providing better and higher quality products by companies and factories, the category of customer satisfaction is becoming more important and more sensitive (39).

The rise of Internet services has changed the way companies interact with customers. Electronic services are understood as an interactive information service that provides a mechanism for companies to offer a variety of services and gain a competitive advantage (40,41). Key topics in the e-service quality literature include the dimensions and criteria of e-services, the elements of the web experience and the relationship between web experience, trust, customer satisfaction, purchase intention and loyalty (Rowley, 2006); e-service quality compared to traditional e-service quality that emphasizes on the humanity in service delivery and on the role of technology service facilitators (Harrington & Vion, 2007, 12); SERVQUAL is among the most popular measurement methods for service quality, developed by Parasuraman, Berry and Zeithaml in 1985.

SERVQUAL should be a turning point in measuring service quality and one of the most pioneering methods. This method initially identified ten dimensions for services, which were later transformed into five dimensions. Ten dimensions were classified into five dimensions with a certain delicacy. Dimensions and SERVQUAL factors:

1- Physical dimension: This index includes all equipment, facilities, public space of the organization, staff appearance, and finally communication channels

2- Reliability dimension: the ability to provide the service promised to customers correctly and is reliable and consistent. Another meaning is the reliability of meeting basic commitments;

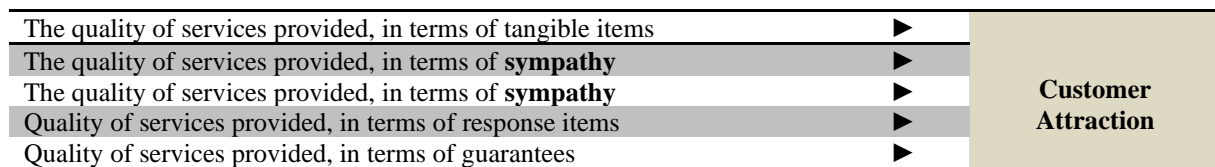that is, if the service organization makes promises in the field of customer service, it must fulfill them.

3- Response dimension: The desire of experts, professors to help the customer or learners, in providing fast and reliable services, speed of response, staff interest in solving learners' customer problems, having the necessary opportunity to respond to learners and provide feedback to customers / learners. In fact, the desire is to help the customer and provide timely service.

4- Guarantee dimension: The ability of the system and its credibility in providing reliable and appropriate services, having employees with sufficient knowledge, familiarity with how to use new equipment and technologies which indicates the competence and ability of the organization's employees to instill a sense of trust and confidence in the customer. This indicator indicates the ability and competence of time personnel to convey a sense of trust and confidence in customer service.

5- sympathy dimension: This indicator means that the treatment of each customer is commensurate with the mood and behavior and in general personality traits, so that customers accept that for the service organization to which they have referred, is important and the organization has understood them (42). The present study seeks to measure the level of satisfaction of the citizens of Mashhad in using the electronic payment system of Mashhad Municipality using the SERVQUAL model.

Figure (1): Conceptual model of research (Mashhadi Farahani, Mohammad Ebrahim, 2001, 18)

The quality of services provided, in terms of tangible items	►	
The quality of services provided, in terms of **sympathy**	►	**Customer Attraction**
The quality of services provided, in terms of **sympathy**	►	
Quality of services provided, in terms of response items	►	
Quality of services provided, in terms of guarantees	►	

3. Materials and Methods

The present research is descriptive-survey in terms of applied purpose and research method. The statistical population of this study is citizens with electronic payment services; the total number of clients is 23,559 people, which is calculated based on the formula for determining the size of Cochran sample equal to 302 people, which was distributed 310 questionnaires for more assurance. In this research, a three-part questionnaire was prepared to provide the necessary information to test the research hypotheses. To do this, use the standard SERVQUAL questionnaire designed to assess the quality of services. In the first part of the questions, the demographic characteristics of the respondents including (gender, age, education, work experience) were asked. The 22 components of customers' expectations from the services were evaluated in the second part of the questions; and in the third part of the analysis, the same components were used again for the performance evaluation of the services. In order to answer the questions, a 7-point Likert scale was used, which includes the options "strongly disagree = 1 to strongly agree = 7". Then, the average answers of each criterion for all respondents were calculated and analyzed. Thus, lower expectations of citizens from perceived performance was a sign of poor service quality and higher than citizens' expectations of perceived performance was considered a sign of high quality. Descriptive statistics were used to analyze the data; inferential statistics were used for personality traits. The questionnaires were identified and fixed by a number of professors and the problems of the questionnaire were confirmed and thus its validity was confirmed and approved as shown in Tables 1 and 2. In this research, SPSS software was used for data analysis.

Table (1) Calculating the Cronbach's alpha value

Reliability Statistics	
Cronbach's alpha	Number of questions
0.886	22

Table (2) Calculating the Cronbach's alpha value per component

Component	Cronbach's alpha	Connect items	Scale variance	The average value
Tactics	0.866	0.470	45.067	48.159
Assurance	0.898	0.517	44.488	48.500
Responsiveness	0.887	0.484	46.162	47.977
Guarantee	0.897	0.660	43.989	48.318
Sympathy	0.886	0.495	44.230	48.045

These above-mentioned aspects of service make it very difficult measure service unlike product quality which is measured objectively using factors such as durability and number defects because of its tangible nature quality (Parasuraman et al., 1988, p.13). What this model strives to measure exactly is the consumer perception of the service quality which depends on the size of the gap between expected service and perceived service which in turn, depends on the gaps under the control of the service provider such as delivery of service, marketing, (Parasuraman et al., 1985). This measurement of service quality is based on both on how consumer evaluates the service delivery process and the outcome of the service, (Parasuraman et al., 1985, p.42). A good service quality is considered as one which meets or exceeds consumer's expectation of the service (Parasuraman et al., 1985, p.46).

These dimensions mainly focus on the human aspects of service delivery (responsiveness, reliability, assurance, and empathy) and the tangibles of service. According to study carried out by Ladhari, (2009), it is recommended that the SERVQUAL model is a good scale to use when measuring service quality in various specific industries but that it is appropriate to choose the most important dimensions of this model that fit to that particular service being measured in order to assure reliable and valid results (43). In this regard, we will use this model because it takes into account customer's expectation of a service as well as perceptions of the service which is best way to measure service quality in service sector.

4. Findings
In this study, the SERVQUAL model was used to measure the gap between citizens' perceptions and expectations in using the electronic payment system of Mashhad Municipality. Data analysis was performed in three sections as follows:

• In the first part, first the demographic characteristics of the respondents and their frequency percentage were examined
• The location of the service was examined in the second stage
• In the third stage, the research hypotheses were examined and then the findings were analyzed using research tests.

Descriptive Findings
Reviewing the demographic characteristics of the respondents showed that out of 302 people surveyed, 63% were men, 34% were in the age group of 21 to 30, and by education distinction, the holders of associate degree had the highest frequency; since currently paid services electronic services are provided in Mashhad Municipality through districts, districts and counter offices, according to the question asked by the respondents, 39% through the thirteen municipal districts, 44% through the districts and 17% through the counter offices. Accordingly, most referrals and transactions were in the field of payment of renovation tolls with 58%, car tolls with 29% and union tolls with 13%.

Inferential Analysis
In order to perform statistical analysis of research hypotheses using Student t test, two samples were used to compare and evaluate the mean of two dependent groups (paired samples, one pair of which is the expected dimension score and the other pair is the performance dimension score from the perspective of a client). Accordingly, after estimating the required statistics, the above test was performed for all research hypotheses and on the scores collected from the sample and the results of the student t test were extracted.

Interpretation of research hypotheses test
There is a significant difference between the expectations and services received by citizens in terms of tangibility.
In terms of the tangibility of electronic toll payment, statistical analysis showed that the level expected by customers was significantly higher than the services received. In fact, there

was a gap of 20.79 between the expected services and perceived services, which indicates that the services provided were lower than expected and the rate (p <0.05) indicates a significant difference and does not meet customer expectations in this dimension and the quality of service is poor.

There is a significant difference between the amount of expectations and services received by citizens in terms of reliability.

In terms of electronic payment of tolls, statistical analysis showed that the level expected by customers was significantly higher than the services received. In fact, there was a gap of 21.79 between expected services and perceived services, which indicates that the services provided were lower than expected and the rate (p <0.05) indicates a significant difference and does not meet customer expectations in this dimension and the quality of service is poor.

There is a significant difference between the level of expectations and services received by citizens in terms of responsiveness

In terms of e-payment customer response, statistical analysis showed that the level expected by customers was significantly higher than the services received. In fact, there was a gap of 25.65 between the expected services and perceived services, which indicates that the services provided were lower than expected and the rate (p <0.05) indicates a significant

difference and does not meet customer expectations in this dimension and the quality of service is poor.

There is a significant difference between the amount of expectations and services received by citizens in terms of guarantee

In terms of customer assurance, statistical analysis showed that the level expected by customers was significantly higher than the services received. In fact, there was a gap of 14.07 between the expected services and perceived services, which indicates that the services provided were lower than expected and the rate (p <0.05) indicates a significant difference and does not meet customer expectations in this dimension. The quality of service is average.

There is a significant difference between the level of expectations and services received by citizens in terms of sympathy.

In terms of customer sympathy, statistical analysis showed that the level expected by customers was significantly higher than the services received. Actually, there was a gap of 22.66 between the expected services and perceived services, which indicates that the services provided were lower than expected and the rate (p <0.05) indicates a significant difference and does not meet customer expectations in this dimension. The quality-of-service delivery is poor. The results of the hypothesis test are shown in Table (3).

Table (3) Investigating the different dimensions of the SERVQUAL model

Dimensions	Desired status	Existing status	Differences /Average	Ranking
Tactics	94.75	73.96	20.79	2
Assurance	94.04	72.25	21.79	3
Responsiveness	94.11	68.46	25.65	5
Guarantee	97.07	83.00	14.07	1
Sympathy	94.29	71.63	22.66	4

There is a difference between the five dimensions of service quality in terms of importance from the citizens' point of view (dimension ranking). Using Friedman test, the research ranking hypothesis was confirmed with 99% confidence; the biggest gap in the dimension of accountability is related to "understanding the special needs of clients in electronic payment of tolls" and "interest in clients and paying attention to the individual and specific situation of each client in electronic payment" and in ranking "Suitability of working hours for electronic payment for all clients". In general, the optimal situation in terms of

sympathy is equal to 94.29 and the current situation is equal to 71.63.

The results indicate that in terms of the importance of the dimension of guarantee received as the most important dimension and after that are the dimensions of tangibility, sympathy, confidence and accountability is recognized as the least important dimension by experts. These results are shown in Table (3), bearing a significant difference.

5. Discussion

A review of the literature indicates that due to the growth of services and its evaluation with

SERVQUAL model, many studies have been done in this field, so not much research has been done to evaluate and measure customer expectations and evaluate the quality of services. Decision makers generally consider many criteria whose relative importance fluctuates; this research can be used as a tool to build the most important criteria for choosing services from the customer's point of view.

The quality of electronic services of Bank Melli using the method SERVQUAL has been reviewed in a study entitled "the evaluation of the quality of Bank Melli electronic services using the SERVQUAL method from the perspective of customers using electronic banking services" conducted in the city of Yazd by Nayebzadeh et al (2010). And the results of the research indicate that there is a gap between the services expected by customers and the services provided to them by the National Bank (44). In 2012, in the city of Ardabil, a study entitled "assessing the situation of the superiority gap of electronic services in Payame Noor University" was conducted by Moeini Kia et al. In this study, the service excellence gap was measured in order to measure the quality of electronic services in Payame Noor University based on the SERVQUAL model, and the results showed that the quality of electronic services in all components of services and their dimensions is significantly low. In other words, there is a gap in the superiority of services in the electronic services of Payame Noor University, i.e. students have expressed dissatisfaction with the quality of services (45). Khayat Moghadam et al conducted a study entitled "the Impact of Privatization Program on the Quality of Services Provided to Customers by Insurance Companies in Mashhad" at Islamic Azad University of Mashhad in 2010.

The purpose of this study was to compare the quality of services of public and private insurance companies and the results showed that privatization has improved the quality of services of insurance companies (46).

The in-depth meticulous and empirical approach of Parasuraman et al in 1988 led to a 22-item questionnaire that assesses service quality based on physical appearance, reliability, responsibility, guarantee, and sympathy. Parasuraman et al described service quality as the degree of discrepancy between customers' reasonable expectations of service and their perception of performance. Rast and Elbor in 1994 point out that the Cervall

Questionnaire, provided by Parasuraman, solves the dilemma of what is the quality of service? Solving and introducing the service quality as a comparison with the ideals expected from customer service (47). In a study conducted by Mukesh Kumar in 2009, important factors in the quality of banking services were determined using the SERVQUAL model. Findings indicate that both competence and convenience can help reduce the gap by up to 76%.

This study showed that the banking sector needs to increase the quality of services by responding and providing banking facilities with more ease (48). In an article published by Mr. de Olivera on the application of the SERVQUAL method in higher education in Brazil, a questionnaire containing 38 questions about students receiving educational services and 28 questions about their expectations of educational services at the University of Saolo of Brazil was used, considering this tool as reliable to measure students' satisfaction with the provision of educational services (49).

6. Conclusions

Institutions, organizations, and executive authorities, with whatever mission, intention, goals, and vision they have, ultimately operate in a national or international realm and are required to be accountable to customers, clients, and stakeholders rather than to a company or organization whose goal is profitability. There, customer satisfaction is an organization that aims to fully and accurately perform its legal duties and help research the country's development and excellence goals, and therefore reviewing performance results is an important strategic process.

The quality and effectiveness of management and its performance is a determining and vital factor in the realization of development programs and welfare of society. Providing services and production of various products and financing from resources, has created enough sensitivity to check the achievement of goals, continuous quality improvement, improving customer and citizen satisfaction, organizational performance and employee management. If performance evaluation is done with a process perspective and correctly and continuously, in the public sector, it will improve and respond to the executive apparatus and public trust in the performance of

organizations and the efficiency and effectiveness of the government.

Regarding that Mashhad Municipality is one of the leading municipalities in the field of electronic payment of city tolls in the country, the purpose of this study is to evaluate the quality of electronic toll payment services to attract more customers and on the other hand because SERVQUAL model is one of the methods of analysis and evaluation of service quality used to conduct this research and according to several studies and distribution of questionnaires and analysis of data from these studies, it was found that the largest gap between the desired situation and the current situation in terms of response and in the next rank, the sympathy dimension, and in the subsequent ranks, the confidence dimension and the smallest gap in the tangibility dimension, and then in the assurance and guarantee dimension were observed. In terms of importance, the received guarantee is the most important dimension, followed by tangibility, confidence, and sympathy, respectively, and the response dimension is known as the least important dimension for customers, which is a significant difference. As mentioned in the previous sections, the results of statistical analysis confirm the confirmation of all hypotheses and all assumptions are accepted, so the present study can be considered a reliable study to evaluate the quality of electronic toll payment services. It used its findings to identify strengths and weaknesses and thus improve the quality-of-service delivery.

Managerial implications

From the managerial point of view, our research suggests some guidelines to the decision-making

authorities of the Electronic Payment Systems of Mashhad Municipality about how to improve the overall quality of the system regarding reliability, assurance, empathy, tangibility, and responsiveness. These elements reinforce perceived quality of the service and consequently help to increase customers' satisfaction with the service and later make them loyal to the system.

- Customer expectation influences the perception of experience. Customer expectation management is an essential issue for service providers to design proper customer experiences in future. Empathy is the key items with which the management

could manipulate the expectation level of the customers.
- Creating an exclusive and effective customer care helpline for Electronic Payment Systems.
- Municipality needs to assure that their system is dependable and safe and highly responsive. As time passes by, the systems need to be upgraded with the state-of-art technology.

Theoretical implication

Our study has the following unique theoretical implications.

First, this study extends SERVQUAL model and with the extension and methodological changes second-order hierarchical approach we can still have all the benefits of SERVQUAL model while reducing the previous limitations of this model. Finally, it is recommended that service quality be assessed on an annual basis. The initial assessment provides a baseline for comparison with future assessments. This comparison is essential for monitoring the effectiveness of service quality improvement efforts and identification of service quality trends as they emerge. The assessment would also provide a broader picture of interest to local governments who would then be aware of the potential areas of interest to their citizens. An annual assessment can help measure progress and would allow enough elapsed time between assessments for improvement efforts to have an impact, while at the same time still be frequent enough to identify emerging customer service trends

Future research direction

Future researchers can use this model for further augmentation with other variables and methodologies that suit different context in cross-industry and cross-country environment. Researchers may incorporate moderating effects and mediating effects in this model for further augmentations.

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