ISSN: 0974-6471, Vol. 15, No. (1-2-3) 2022, Pg. 09-20



# **Oriental Journal of Computer Science and Technology**

www.computerscijournal.org

# Evaluating the Factors that Affect Service Quality Management on Arabic Public Sector

# YAS A. ALSULTANNY

Engineering of Technical Communication Department, Uruk University, Baghdad, Iraq.

# Abstract

Quality of queuing service management is the aim of any organization providing its services to customers. The purpose of this paper is to evaluate the factors affecting the quality of service provided by the public sector depending on waiting lines. For this purpose, a questionnaire survey was conducted on a sample of 394 to collect data relating to customer satisfaction. The questionnaire consists of five factors: process, tangible, responsiveness, reliability, and empathy. The results showed that the degree of agreement of the factors; process, tangible, reliability, responsiveness, empathy, and service quality gain a neutral category, and all the factors have statistically significant effects on quality of service except the empathy factor. For the demographic information, the results showed that there are statistically significant differences for most of the demographic information. This paper extends the previous research that investigates factors affecting e-recruitment. The author extends the results of previous research related to the transparency of e-recruitment. The study recommended the service departments should make more effort in the way of providing services to improve the level of service quality management.



#### Article History Received: 23 June 2022 Accepted: 27 August 2022

#### Keywords

Empathy; Process; Queuing theory; Reliability; Responsiveness; Tangible.

# Introduction

The efficiency of services is the cornerstone of any public organization. Too many servers would increase the efficiency of the service provided, but it increases the cost. The longer duration customers spend waiting for service increases distress and anxiety, which will affect the customers' evaluation of the service delivered.<sup>1</sup> Queuing is not only a part of our daily lives, but it is considered one of the major administrative tasks in an organization. Queuing is the process where people, materials, or information need to wait for a certain time to get a service.<sup>2</sup>

Service quality is the global judgment or attitude relating to the overall excellence or superiority of the service.<sup>3,4</sup> Another definition is, that service

**CONTACT** Yas A. Alsultanny alsultanny@yahoo.com Congregation of Technical CommunicationDepartment, UrukUniversity, Baghdad, Iraq.



© 2022 The Author(s). Published by Oriental Scientific Publishing Company.

This is an **∂** Open Access article licensed under a Creative Commons license: Attribution 4.0 International (CC-BY). Doi: http://dx.doi.org/10.13005/ojcst15.010203.02

quality is the discrepancy between the service quality that is delivered by the organization and the service performance that employees expected.<sup>5</sup>

The concept of service has affected businesses all over the world, thus, it is of great importance. Service is defined as any act that one party offers to another that is in*tangible* and does not result in ownership.<sup>6</sup> Service quality began in the early 1920s as a method of product inspection to ensure that products are acceptable to customers. Quality is a survival tool for organizations that are undergoing a shift from a production-led to a customer-focused approach. The competitiveness of an organization is determined by the way it delivers services to the customers.<sup>8</sup>

The duration of the service has either positive or negative experiences for customers. Short wait times give a positive impression of the services, either high quality or vice versa.9 Providing services is more complex in the public sector, it is not simply meeting the needs but finding the unexpressed needs and allocating resources. The public sector organizations have come under pressure to improve efficiencies and deliver quality service.<sup>10</sup> The service provided by the public sector is frequently a reflection of general bureaucracy quality. As a result, governments need to continuously make improvements in the public service quality to gain customer satisfaction.11 Service quality and user satisfaction are important evidence of user loyalty.<sup>12,13</sup> Therefore, focusing on user satisfaction will improve the quality assurance as well as on the quality of the services.14

Public sectors in Arabic countries provide some of their services by traditional methods by attending organizations physically. This method serves residents, which pushes them to complain due to the waiting time queues. Therefore, this paper aimed to identify and evaluate the factors affecting service quality management in the public sector.

The paper consists of five sections. After the introduction, the theory and research propositions are developed. Next, the research methodology is presented, including sample selection and research instruments. Data analysis and main research findings are provided in the fourth section. Finally, research results are discussed.

## **Theory and Research Propositions**

Public sectors are becoming more focused on service quality, intending to satisfy the customers. To know whether the customer is satisfied with the service or not, organizations need to measure the quality of the service. Researchers measure the quality of service with the SERVQUAL model, which is considered one of the most popular tools.<sup>15,16,17,18</sup>

<sup>8</sup>studied the importance of the five factors of service quality, which are: *tangible*- physical facilities, equipment, and appearance of staff. *Reliability* is the ability to perform the promised service regularly and perfectly. *Responsiveness* is the willingness to help customers and provide quick service. *Assurance* is the knowledge and politeness of employees, and their ability to inspire trust and confidence. *Empathy*the care and the individual attention the organization provides to its customers.

<sup>19</sup>used the survey as a tool to evaluate the services provided to customers by public transportation. The results of their study showed that the service quality meets the perception of the customers, this study recommended that service providers must understand the responsibility of providing reliable service to the customers.<sup>20</sup> in their study, aimed to measure customer perception towards services provided by public banks. Their questionnaire was used as a tool to collect the data, and the results of the study showed that banks create a good impression and satisfy their customers with the quality of serviceprovided.

<sup>21</sup>used SERVQUAL framework in evaluating the relationship between quality of service and customer satisfaction. Their results showed that empathy, *reliability*, assurance, *responsiveness*, and *tangibles* have a significant relationship with customer satisfaction. While<sup>23</sup> measured the factors affecting customer satisfaction, through service quality provided by the courier company.<sup>22</sup> identified and ranked the critical factors affecting total quality management in South Africa, commitment of top management to quality gained the first rank.

Customers from the public sectors in Arabic countries, providing services by the queuing system used in this paper as a case study. The systems

in these sectors providing services changed from time to time to provide better service quality for their customers with a short waiting time. However, the system changes are based on observations and recommendations by expert employees, taking into account the customers' complaints. The department of services uses customer flow technology, which tracks the waiting times of customers. The department of services sets a target goal in the system for the acceptable waiting times for the customers, which is usually less than five minutes for each transaction. The data collected from the systems showed that almost all the customers waited more than 5 minutes. Therefore, the problem of this paper is evaluating the factors that affect the queuing quality of service from the perspective of customers in the Arabic public sector.

The research method used in this case study is the quantitative method. A questionnaire was used as a tool to collect data. The variables of the questionnaire were divided into independent variables and dependent variables as follows.

Independent variables are The five factors of the questionnaire selected from the service quality

factors model 7 and the 5Qs model.<sup>8,24</sup> These factors are process, *tangible*, *reliability*, *responsiveness*, and empathy with quality of service (QS) as a target goal, and the demographic information is, gender, education level, age, and thenumber of visits.

The dependent variable is *quality of service*. Figure 1 shows the designed conceptual model, with the three propositions. These propositions are.

## PR1

There are statistically significant effects of the factors (process, *tangible*, *reliability*, *responsiveness*, and empathy) on the *quality of service*.

#### PR 2

There are statistically significant differences in the demographic information (gender, education level, age, and the number of visits) on the factors (process, *tangible*, *responsiveness*, *reliability*, and empathy).

# PR3

There are statistically significant differences in the demographic information (gender, education level, age, and thenumber of visits) in the *quality of service*.



Fig. 1: The research model of evaluating factorsthat affect quality of service

## **Research Methodology**

The current study depends on a self-administered questionnaire. The design of the questionnaire is based on knowledge gathered from surveying several studies. The questionnaire consists of two parts. The first part was for demographic information. The second part consists of 38 statements divided into five factors and *quality of service*. The statements of the questionnaire were rated by the 5-point Likert scale where; Strongly Disagree (SD)=1, Disagree (D)=2, Neutral (NU)=3, Agree (A)=4, and Strongly

Agree (SA)=5, which is commonly used to measure attitude, providing a range of responses to a given question or statement. Before the questionnaire was distributed to the participants, it was validated by several academics. They were asked to evaluate the contents of the questionnaire regarding the language, accuracy, completeness, and clarity.

Five intervals of the scale were used to interpret the respondents' degree of agreement. The following formula was used to calculate the score interval.<sup>25</sup>

Score Interval = (Maximum Score–Minimum Score)/ Number of levels = (5-1) / 5 = 0.8 ...(1)

The statement with an average score of less than 1.8 was considered Strongly Disagree. The statement, which falls between the averages of 1.81 to less than 2.6, was considered Disagree. The statement, which falls between the averages of 2.6 to less than 3.4 was considered Neutral. The statement, which falls between the averages of 3.4 to less than 4.2 was considered Agree. The statement, which falls between the averages of 4.2 and 5 was considered Strongly Agree.

The correlation between the factors calculated to measure the direction and the degree of correlation rated between -1 and +1. The positive values mean positive correlation, while the negative values mean negative correlation. The correlations less than 0.3 are considered weak, the correlations between 0.3 and 0.7 are considered moderate, while the correlations more than 0.7 are considered strong.

Data collected by the questionnaire survey method was analyzed in several steps using various statistical methods. Validity analysis was conducted to ensure content validity, the items adopted from previous studies, and the questionnaire piloted by interviews with 10 university professors and experts in the field of quality of service. They were asked to evaluate the content regarding the language, accuracy, completeness, and clarity. To measure the internal consistency of the questionnaire, a reliability test was carried out using Cronbach's Alpha. The results showed that the Cronbach's Alpha for all statements is 0.89, which is acceptable and indicates high internal consistency between the statements of the questionnaire, since it's higher than 0.6 26. The Empathy factor gained the highest value with alpha of 0.80; the lowest value of alpha is for the Tangible factor, which is 0.68. This means the *reliability* of this questionnaire data is acceptable.

#### **Data Analysis and Research Findings**

Before the statistical analysis, the normal distribution test by Kolmogorov-Smirnov was applied. This test showed that the statements in the questionnaire have a normal distribution, because the sig values for each statement in the questionnaire are greater than 0.05. The results of Levene's test for homogeneity showed that the collected data from responses are homogenous because each statement has sig values greater than 0.05.

Personal details	Gender Education leve			on level	Age (years)				Number of visits			
Variable	Male	Female	University	High school or lower	Less than 20 years	20 to less than 30	30 to less than 40	40 to less than 50	50 and more	1 time	2–4 times	More than 4 times
F %	355 90.1	39 9.9	190 48.2	204 51.8	9 2.3	74 18.8	235 59.6	70 17.8	6 1.5	95 24.1	247 62.7	52 13.2

Table 1: The respondents' demographic information

F: Frequency, %: Percentage

The number of customer participants in the questionnaire is 394. Table 1 shows the descriptive profile of the sample. The majority of the respondents are male. They are 355 out of 394 respondents, which is (90.1%) of the total respondents. On the other hand, female respondents counted for 39 (9.9%) of the respondents' total number. This is normal because the male is considered the head of the family in Arabic countries. For education

level, 204 (51.8%) of the respondents have a high school or lower level of education. On the other hand, there were 190 (48.2%) of the respondents holding a bachelor's degree. The highest percentage of respondents falls into the age group of (30 to less than 40) years old, representing 235 (59.6%) of the respondents, followed by those who are between (20-30) years old and 74 (18.8%). However, the lowest percentage was respondents who are

50 years and more with 6 (1.5%) of the respondents. Many respondents visited public sector organizations for transactions from 2-4 times, which represents 247 (62.7%) of the respondents, followed by 1 visit, which represents 95 (24.1%) of the respondents. The lowest score was more than 4 times, which was 52 (13.2%) of the respondents.

The questionnaire contains 38 statements. For each statement, the frequencies, percentages, averages, standard deviations (STD), and rates were calculated according to respondents, where the rate represents the degree of agreement. Table 2 shows the results of the factors. For the 1<sup>st</sup> factor- process, the statement S1, which states. *"The waiting time for the receptionist to respond to my request was acceptable"*, got the highest average (3.77) with standard deviation (0.691). The average of this factor is (3.39) with standard deviation (0.503), which falls in the neutral degree of agreement. It can be concluded that the customers are not satisfied with the process provided, especially when it comes to the waiting times for the service and its performance duration, and unsure about the time they spend on the system.

No	Statements	Average	STD*	Rate
S1	The waiting time for the receptionist to respond to my request was acceptable	3.77	0.691	А
S2	The time I spent waiting in the queue (before getting to the service counter) was acceptable	3.52	0.766	А
S3	Time spent on performing my transaction was acceptable	3.51	0.805	А
S4	The waiting time from my arrival at the organization until I reached the service counter was acceptable	2.86	0.784	NU
S5	All types of transactions passed through the same process were acceptable	3.49	0.801	А
S6	The organization provides an express queue for short - period transactions	3.18	0.912	NU
Proce	ss factor - average	3.39	0.503	Neutral
S7	The waiting counter screen is visible and clear in the waiting hall	3.87	0.797	А
S8	There are enough employees at the reception desk	3.80	0.781	А
S9	There are enough number of service counters	3.45	0.837	А
S10	The department provided me withcatalogues to access information	2.99	0.923	NU
S11	The website of the organization is easy to use and navigate	3.02	0.711	NU
S12	There are enough number of inquiry machines in the waiting area	3.25	0.911	NU
Tangil	ble factor - average	3.40	0.512	Neutral
S13	The employees have enough knowledge to answer my questions	3.76	0.773	А
S14	The employees perform services correctly from the very first time	3.53	0.731	А
S15	The employees tell me exactly when my transaction will be done	3.39	0.870	NU
S16	Information provided by employees is clear and understandable	3.75	0.780	А

# Table 2: Descriptive statistics of the factors

S17	Employees have the skills and knowledge	3.65	0.832	А
S18	The organization's website protects my	3.15	0.591	NU
S19	The information provided by the organization's	2.85	0.645	NU
S20	The information provided by the organization	2.94	0.727	NU
Reliabili	ty factor - average	3 38	0 449	Neutral
S21	I am satisfied with the attention provided	3 84	0.758	Δ
021	by the receptionist	0.01	0.100	,,
S22	I am satisfied with the attention received	3.85	0.786	А
	from the service counter			
S23	The administration staff are available to	3.76	0.854	А
	answer my question			
S24	The employees are able to conduct transactions	3.08	0.906	NU
	immediately or in a short waiting period			
S25	The organization's website can process	2.72	0.637	NU
	information and transactions quickly			
Respon	siveness factor - average	3.45	0.555	Agree
S26	The organization's web site has up-to-date technology	2.37	0.830	D
S27	The organization's website enables to fulfill some types of transactions without the need to attend in person	2.01	0.879	D
S28	The organization's provides online payments with Credit/Debit cards	2.83	0.855	NU
S29	The organization's website can be used by smart-phones and tablets	2.30	0.861	D
S30	The organization's website provides information about the documents needed to fulfill transactions	2.48	0.875	D
S31	The organization's voice query service provides	2.51	0.926	D
	me with valuable information			_
\$32	The organization's website is linked with a	2.46	0.832	D
<b>F</b>	government online payments service	0.40	0.500	D:
Empath	y ractor - average	2.42	0.582	Disagree
533	provided by the organization	3.78	0.986	A
S34	Overall. I am satisfied with the quality of	3.75	0.972	А
	service delivered by the organization			
S35	I am satisfied with the overall waiting	3.56	0.975	А
	time for all services			
S36	I am satisfied with the electronic services	3.38	0.834	NU
	provided by the organization			
S37	For each visit to the organization, I never	3.50	1.007	А
	encountered a system out of service			
S38	I am satisfied with the services provided	4.04	1.031	A
	by the organizational staff			
Quality	of service factor - average	3.67	0.650	Agree

ALSULTANNY, Orient. J. Comp. Sci. & Technol., Vol. 15(1-2-3) 09-20 (2022)

\*STD: Standard deviation

14

For the  $2^{nd}$  factor-*Tangible*, the statement S7, which states: *"The waiting counter screen is visible and clear in the waiting hall"*, got the highest average (3.87) with standard deviation (0.797), which is an agreed degree of agreement. The average of this factor is (3.40) with a standard deviation (0.512), which is a neutral degree of agreement. However, it is very close to the agreed degree of agreement. The results show that customers were objective about the infrastructure, or the *tangible* services provided. This is because most public organizations don't care much about the infrastructure or *tangible* services provided to the customer.

For the 3<sup>rd</sup> factor-*Reliability*, the statement S13, which states: *"The employees have enough knowledge to answer my questions"*, got an average of (3.76) with standard deviation (0.773), which is an agreed degree of agreement. The average of this factor is (3.38) with standard deviation (0.449), which is a neutral degree of agreement. This means the customers who use the organization's website are objective about the security, information updates, and the *reliability* and accuracy of the website.

For the 4<sup>th</sup> factor-*Responsiveness*, the statement S22 "*I am satisfied with the attention received from the service counter*", got an average value of (3.85) with a standard deviation (0.786), which is an agreed degree of agreement. The average of this factor is (3.45) and the standard deviation (0.555), which is an agreed degree of agreement. That is an indication that the customers are satisfied with the attention of the department staff and their availability. On the other hand, customers are not as happy with the speed of the employees in conducting their transactions.

For the 5<sup>th</sup> factor-Empathy, the statement S28 *"The organization provides online payments with Credit/Debit cards"* got an average value of (2.83) with standard deviation (0.855), which is neutral degree of agreement. The results show that this factor gains an average value of (2.42) and standard deviation (0.582), which is a disagree degree of agreement. This indicates the organization needs to do publicity and encourage their customers to use their online services.

For the 6<sup>th</sup> factor-Empathy, the first rank goes to S38 "I am satisfied with the services provided

by the organization staff", with an average value of (4.04) with standard deviation (1.031), which is an agreed degree of agreement. The results show that this factor gains an average (3.67) with a standard deviation (0.650), which is an agreed degree of agreement. The results of this factor indicate that the customers agree that the provided services are of acceptable quality in general.

All the factors were analyzed for the whole of 394 responses, except for the factor empathy, only the answers of 218 responds were using the organization's website and electronic applications were analyzed for this factor.

The linear regression test was carried out for testing proposition PR1. Table 3 shows the results of testing this proposal. The table shows the process factor has a weak effect on quality of service, with the coefficient of determination r square equal 0.125, with Sig=0.000 and the regression equation is QS= 1.975 + 0.494 (Process). The results assure that the process is an important for improving the *quality of service*.

# Table 3: Simple linear regression test for proposition PR1

Factor	r	r square	F	Sig
Process	0.354	0.125	56.197	0.000
Tangible	0.453	0.205	101.235	0.000
Reliability	0.559	0.313	178.517	0.000
Responsiveness	0.538	0.290	158.746	0.000
Empathy	0.125	0.016	3.433	0.065

The *tangible* factor has a weak effect on quality of service because the coefficient of determination r square is 0.205, but it still has a significant effect because Sig=0.000. The regression equation is QS= 1.760 + 0.560 (*Tangible*). The result assures that the *tangible* factor has an effect on the provided services and can improve the *quality of service*.

For the *reliability* factor, the coefficient of determination r square is 0.313 and Sig= 0.000, which indicates a moderate effect of the *reliability* factor on *quality of service*. The regression equation is QS= 1.356 + 0.668 (*reliability*). The results indicate that the customers find that *reliability* is an important factor in improving the *quality of service*.

For the *responsiveness* factor, the coefficient of determination r square is 0.290, which indicates that there is a weak effect of the *responsiveness* factor on the *quality of service*. It has a significant effect because the Sig=0.000. The regression equation based on the test is given as QS= 1.487 + 0.621 (*responsiveness*). The results indicate that *responsiveness* is an important attribute for improving the *quality of service*.

For empathy, the coefficient of determination r square value is 0.016, a very weak and not significant because Sig= 0.065. The regression equation based on the test is given as QS= 3.437 + 0.073 (empathy).

However, the respondents to this factor were only 218 of the total population In addition, this factor focuses more on the online services.

Proposition PR2 was used to test the effect of demographic information on the process, *tangible*, *reliability*, *responsiveness*, and *empathy*.

Table 4 shows the effect of gender on the factors of the questionnaire by using independent samples T-test. The results show that gender has no statistically significant effect on the factors "Process, *Tangible*, *Reliability*, *Responsiveness*, and Empathy".

Factor	Gender	Ν	Average	STD	t	df	Sig.
Process	Male	355	3.444	0.511	-1.823	392	0.167
	Female	39	3.598	0.399	-2.223	52.767	
Tangible	Male	355	3.411	0.552	-2.632	392	0.800
	Female	39	3.661	0.655	-2.296	44.142	
Reliability	Male	355	3.454	0.577	-3.164	392	0.609
-	Male	39	3.764	0.609	-3.03	45.821	
Responsiveness	Female	354	3.506	0.601	-2.675	389	0.535
	Male	37	3.785	0.642	-2.535	42.859	
Empathy	Female	201	2.386	0.665	-1.866	215	0.491
	Male	16	2.714	0.821	-1.559	16.605	

#### Table 4: Independent samples T-test for gender effect on the questionnaire factors

Table 5: Independent samples T-test for education effect on the questionnaire factors

Factor	Education	N	Mean	STD	t	df	Sig.
Process	University	189	3.406	0.557	-2.093	391	0.001
	High school or less	204	3.511	0.442	-2.075	358.525	
Tangible	University	189	3.371	0.639	-2.225	391	0.000
-	High school or less	204	3.498	0.486	-2.203	350.034	
Reliability	University	189	3.444	0.612	-1.375	391	0.089
	High school or less	204	3.525	0.562	-1.371	381.065	
Responsiveness	University	189	3.465	0.660	-2.167	388	0.007
	High school or less	201	3.598	0.552	-2.155	367.142	
Empathy	University	107	2.461	0.659	1.077	215	0.629
	High school or less	110	2.361	0.702	1.078	214.711	

Table 5 shows the effect of education of the questionnaire's factors by using the independent samples T-test. The results show that there are no statistically significant differences in the factors

*reliability* and empathy according to education. On the other hand, there are significant differences in the factors, process, *tangible*, and *responsiveness*. According to the results, the averages of the holders of high school degrees or less were greater than the holders of university degrees. That explains why the university degree holders group has higher awareness than the high school or less, because they have more knowledge. Table 6 shows the result of variance analysis in one way ANOVA, according to age. The table shows that the age has no statistically significant differences in the factors. This indicates that there is no effect on the factors.

Factor	Source of variance	Sum of Squares	df	Mean Square	F	Sig.
Process	Between Groups Within Groups Total	.818 98.477 99.295	4 389 393	0.205 0.253	0.808	0.521
Tangible	Between Groups Within Groups Total	2.279 124.242 126.521	4 389 393	0.570 0.319	1.784	0.131
Reliability	Between Groups Within Groups Total	1.3631 134.072 135.435	4 389 393	0.341 0.345	0.989	0.413
Responsiveness	Between Groups Within Groups Total	1.689 143.163 144.852	4 386 390	0.422 0.371	1.138	0.338
Empathy	Between Groups Within Groups Total	1.668 98.625 100.294	3 213 216	0.556 0.463	1.201	0.310

# Table 6: One way ANOVA test for age effect on the questionnaire factors

Table 7: One wa	y ANOVA test for	or number of visits	s effect on the c	uestionnaire factors
-----------------	------------------	---------------------	-------------------	----------------------

Factor	Source of variance	Sum of Squares	df	Mean Square	F	Sig.
Process	Between Groups Within Groups Total	0.558 97.768 98.327	2 380 382	0.279 0.257	1.085	0.339
Tangible	Between Groups Within Groups Total	2.879 121.909 124.788	2 380 382	1.439 0.321	4.487	0.012
Reliability	Between Groups Within Groups Total	3.881 131.100 134.981	2 380 382	1.941 0.345	5.625	0.004
Responsiveness	Between Groups Within Groups Total	4.284 137.602 141.887	2 377 379	2.142 0.365	5.869	0.003
Empathy	Between Groups Within Groups Total	3.370 93.500 96.870	2 204 206	1.685 0.458	3.676	0.027

Proposition PR3 was used to test the effect of demographic information on quality of service.

Table 7 shows the result of variance analysis by one-way ANOVA according to visited organization. The results show there is no statistically significant difference in the process factor. On the other hand, there are statistically significant differences in the tangible, reliability, responsiveness, empathy, and quality of service. The Scheffe test was used to explore the source of differences. The results showed that there are statistically significant differences in the tangible, reliability, and responsiveness factors between the 1 time visit group and the more than 4 times visit group, in favor of the 1 time visit group. The results indicate that the 1 time visit group perceives the previous factors more than the other groups. There are statistically significant differences in the responsiveness and the 2-4 times group and the more than 4 times visit group, in favor of the 2-4 times group.

The results of the study reveal most differences between the groups that visited more than 4 times.

This indicates that people who made visits more than 4 times, have become skeptical due to the number of visits they made to the organization, with the addition of not witnessing new developments in the services provided by the organization. In addition, the group more than 4 times scored the lowest averages in all the factors.

Table 8 shows the effect of gender and education level on quality of service by using independent samples T-test. The results show that the gender and education level have statistically significant effects on. The difference for females is greater than for males because females find many difficulties in visiting the organization of public sectors. For education level, the customers holding secondary school or lessare greater than the holders of university degrees. That explains that the university degree holders group has a higher awareness of service quality than the high school or less, because they have more knowledge.

Demographic parameter	Туре	Ν	Average	STD	t	df	Sig.
Gender	Male Female	355 39	3.653 3.955	0.703	-2.571	392 49.294	0.043
Education level	University High school or less	189 204	3.516 3.841	0.734 0.631	-4.724 -4.696	391 371.904	0.010

Table 8: Independent samples T-test for gender effect on the questionnaire factors

Table 9 shows the result of variance analysis in one way ANOVA according to age and number of visits.

The table shows that the age has no statistically significant differences in the service quality.

Demographic parameter	Source of variance	Sum of Squares	df	Mean Square	F	Sig.
Age	Between Groups Within Groups Total	2.240 190.756 192.996	4 389 393	0.560 0.490	1.142	0.336
Number of visits	Between Groups Within Groups Total	11.905 178.263 190.167	2 380 382	5.952 0.469	12.688	0.000

Table 9: One way ANOVA test for age and number of visits effect on the questionnaire factors

On the other hand, the number of visits has statistically significant differences in the *quality of service*. The Scheffe test showed there are statistically significant differences in the quality of service between the 2-4 times group and the more than 4 times visit group, in favor of the 2-4 times group. This indicates that the people who visited more than 4 times, have become skeptical due to the number of visits they made to the organization, with the addition of not witnessing new developments in the services provided by the organization. In addition, the group more than 4 times scored the lowest averages in the *quality of service*.

#### Conclusion

The results of the study demonstrated that the factors: process, *tangible*, *reliability*, and *responsiveness* have an effect on quality of service, while the empathy factor does not have an effect on *quality of service*.

An analysis was made of the relationship between demographic information and the study factors. The results showed statistically significant differences appeared for all factors except for age. For the education groups, the results indicate that the university group has more awareness quality of service due to their knowledge. Among the groups for number of visits, there were differences between them, according to the results. *The more than 4 times*  *visit* group perceived the *quality of service* less than the other groups and that could be because of the times they had to visit to complete their transactions, or as they saw no improvements in service every time they visited the organization.

The study recommends improving the online services, like enabling the customers to conduct all transactions without the need to attend personally, and keeping the information updated on the website to reduce the number of customers who come to the organization for enquiry only.

#### Acknowledgement

The author would like to thank, Engineering of Technical Communication Department, Uruk University, Baghdad, Iraq. For their guidance and support to complete this article.

#### Funding

No, Funding for this research paper.

# **Conflict of Interest**

No, conflict of Interest.

#### References

- Al-Hamdan, H. (2009). The Impact of Waiting Time and Service Quality Delivery on Out patient Satisfaction in Kuwaiti Public General Hospitals. MSc thesis, Maastricht School of Management, Netherlands.
- 2. Nafees, A. (2007). Queuing Theory and its Application: Analysis of the Sales Checkout Operation in ICA Supermarket. MSc thesis, University of Dalarna, Sweden.
- Parasuraman, A., Zeithaml, V. & Berry, L. (1985). A Conceptual Model of Service Quality and its Implications for Future Research. *The Journal of Marketing*, 49, 41-50.
- Parasuraman, A., Zeithaml, V. & Berry, L. (1988). Servqual. *Journal of Retailing*, 64(1), 12-40.
- Gronroos, C. (1988). Service Quality: The Six Criteria of Good Service Quality. Review of Business, 19, 10-13.
- 6. Kumasey, A. (2014). Service Quality and Customer Satisfaction: Empirical Evidence

from the Ghanaian Public Service. European *Journal of Business and Management*, 6(6), 172-181.

- Agbor, J. (2011). The Relationship between Customer Satisfaction and Service Quality: a Study of Three Service Sectors in Umeå. MSc thesis, Umea School of Business, Sweden.
- Rahaman, M., Abdullah, M. & Rahman, A. (2011). Measuring Service Quality using SERVQUAL Model: A Study on PCBs (Private Commercial Banks) in Bangladesh. *Business Management Dynamics*, 1(1), 01-11.
- Mensah, A. (2010). Customer Satisfaction in the Banking Industry: A Comparative Study of Ghana and Spain. PhD thesis, University of Girona, Spain.
- Jnr, A. (2012). Service Quality and Customer Satisfaction in Public Sector Organizations: a Case Study of the Commission on Human Rights and Administrative Justice. Institute of Distance Learning, Kwame Nkrumah University of Science and Technology.

- Hadiyati, E. (2014). Service Quality and Performance of Public Sector: Study on Immigration Office in Indonesia. International Journal of Marketing Studies, 6(6), 104-117.
- Bae, K. & Cha, S. (2015). Analysis of the Factors Affecting the Quality of Service in Public Libraries in Korea. 47, (3), 173-186, https://doi.org/10.1177/0961000614532483
- Supriyanto, A., Wiyono B., &Burhanuddin, B. (2021). Effects of Service Quality and Customer Satisfaction on Loyalty of Bank Customers, Cogent Business & Management, 8 (1), DOI: 10.1080/23311975.2021.1937847
- Pambreni, Y., Khatibi, A., Azam, S., &Tham, J. (2019). The Influence of Total Quality Management toward Organization Performance. *Management Science Letters*, 9(9), 1397-1406. DOI:10.5267/j. msl.2019.5.011
- Hussain, S. &Rehman, S. (2012). Patient Satisfaction Regarding Hospital Services: A Study of Umea Hospital. MSc thesis, Umeå University, Sweden.
- Sabt, A. (2011). Measuring the Impact of using Technologies to Improve the Quality Performance of Service Organizations Case Study: Public Awqaf Foundation in the State of Kuwait. MSc thesis, Arabian Gulf University, Kingdom of Bahrain.
- Hassan, A. (2018). Factor Affecting Customer Satisfaction Towards Service Quality of Front Office Staff at the Hotel Putra Regency, Available at SSRN: https://ssrn. com/abstract=3187273 or http://dx.doi. org/10.2139/ssrn.3187273
- Tuan, N., & Ly, N. (2020). Factors Affecting Customers' Satisfaction on Service Quality

   the Case of Duong Vy service Trading Limited Company. Science & Technology Development Journal - Economics - Law and Management, 4(3), 881-896.
- Randheer, K. & AL-Motawa, A. (2011). Measuring Commuters' Perception

on Service Quality using SERVQUAL in Public Transportation. *International Journal of Marketing Studies*, 3(1), 21-34.

- Shah, M. &Guha, S. (2013). A Study of Customer Satisfaction towards Service Provided by Employees of Public Banks using Servqual Model with Reference to Durg-Bhilai Region. International Journal of Management and Social Sciences Research, 2, 71-77.
- Zygiaris, S., Hameed, Z., AyidhAlsubaie, M. & Ur Rehman S. (2022). Service Quality and Customer Satisfaction in the Post Pandemic World: A Study of Saudi Auto Care Industry. Front. *Psychol.* 13:842141. doi: 10.3389/ fpsyg.2022.842141
- Beraki, T., Beraki, M., Plecka, M., &Abdourrahmane, M. (2022). Factors Affecting the Implementation of Total Quality Management (TQM) in Small and Medium-Sized Enterprises (SMEs): The Case of South Africa. Journal of Organizational Culture Communications and Conflict, 26(3), 1-14.
- Yaacob, N. A. &Yaacob, T. Z. B. (2022). Factors Affecting the Level of Customer Service Satisfaction Towards the Courier Service Management Quality at Johor Bahru, Scientific Journal of Innovation and Social Sciences Research, 2 (1), 27-44.
- 24. Alsultanny, Y. & Alotibi, M. (2015). Evaluating the Factors Affecting on Intension to Use of E-Recruitment. *American Journal* of Information Science and Computer Engineering, 1 (5), 324-331.
- Alsultanny, Y. &Alzuhair, S. (2017). Evaluating Saudi Cement Companies Market Share, Emerald *Journal of Science and Technology Policy Management*, 8(2), 146-160, doi: 10.1108/JSTPM-11-2016-0031.
- Marković, S. &Raspor, S. (2013). Exploring the Relationship between Service Quality and Customer Satisfaction in Croatian Hotel Industry. Tourism and Hospitality Management, 19(2), 149-164.