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Study to Determine the Applicability of SERVPERF to Measure the Quality of Governments' e - Services for Customer Satisfaction

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Abstract

In this digital age and busy life, where connectivity and ease of use and availability are utmost requirements, e-government services will provide citizens with what all they desire from the services. It is need of the hour that the services that are provided by the government should also have the option of online services so that the citizens can avail the services at their own convenience. The services that government provides to its citizens in online or electronic mode are referred to as e – government services. The availability of e – government services has given the opportunity to the citizens to avail the services as per convenience and benefitted them by avoiding the long queues in the government offices. So, there is a need to evaluate these services for customer satisfaction to analyze the benefits and to formulate roadmap for improvement. E- government evaluation is generally avowed as a government website evaluation. The current study focused on devising factors for ServPerf scale for evaluation of e – government services provided in online mode and testing the reliability of the scale for customer satisfaction. The study has taken the case of Tricity (Chandigarh, Panchkula and Mohali). The result of the study confirms the efficacy and usage of ServPerf scale for evaluation of e – government services in online mode (i.e. website evaluation) for customer satisfaction.

Keywords: e – government services, customer satisfaction (citizen satisfaction), e- government services in online mode i.e. web portals, ServPerf.

Measuring E – Government Services for Customer Satisfaction (Web Portals)

Electronic government (e-government), defined as the use of information and communication technology (ICT) to enhance how services are delivered, is increasingly being adopted by governments around the world as an avenue to reach stakeholders by providing electronicservices through the Internet. In this digital age, providing quality of services is utmost essential

for survival and creating a niche in the market. E – Services are no exception. Therefore it is very important and essential for public sector organization or e-government services to deliver quality of services for complete digitalization of government sector that will further help in improving the performance and timely delivery of services.

Measuring service quality and service excellence are important in a competitive organizational environment. E-Government services play an important role in development of a nation as one can access the services 24 X 7 X 365. This will help to develop strong and effective implementation of policies as well as convenience citizens (users of these services) with the help of efficient telecommunication technology and optimum use of ICT. This can be done by development and maintenance of e-government websites (termed as a medium of providing e- government services). Maintaining these websites or providing better e-government services there should be a mechanism to evaluate these services. To evaluate e – government services various researchers have used a many tools and performance indicators are discussed in table 1.

Table 1: TOOLS FOR WEBSITE EVALUATION (E-Services)

Model	**Year**	**Researchers**
ServPerf	1992	Cronin and Taylor
ServQual	1985 Modified in 1988	Parasuraman, Zeithaml and Berry
e – GovQual	2009	Papadomichelaki and Mentzas
SITEQUAL	2001	Yoo and Donthu

E – Squal	2005	A. Parasuraman, Valarie A. Zeithaml, Arvind Malhotra
E-RecS-QUAL	2005	A. Parasuraman, Valarie A. Zeithaml, Arvind Malhotra
E- SQ	2008	Swaid
EGOSQ	2007	Anand Agrawal, Pragya Shah and Varun Wadhwa
e-GSQA	2012	Syed Faizan Husain Zaidi, Farhi Marir, Sahithi Siva
COBRAS	2011	Osman, Ibrahim H. Anouze, Abdel Latef Irani, Zahir Al-Ayoubi, Baydaa Lee, Habin Balc, Asim Medeni, Tunç D.Weerakkody, Vishanth
E – SELFQUAL	2011	David Xin Ding a, Paul Jen-Hwa Hu, Olivia R. Liu Sheng
WEBQUAL	2000	Stuart Barnes Richard Vidgen

Review of literature

Researchers have adapted or used the scale as such to evaluate the e-government web portals ande - services provided by the various government agencies in all parts of the world. In the domain of service quality many researchers has proposed the use of 22 item – four dimensional scale proposed by Parasuraman, Zeithaml and Berry in 1985; Laila et. al.(2016); Chaudhary(2017), or as an adaptation of the original model for measuring the service quality, Daniel et. al.(2010); Alanezi et. al.(2010); Papadomichelaki et. al. (2011); Stiglingh (2013); Rasyid et.al. (2016). The ServPerf method scans only the level of quality received perceived service and compares it to the ideal services. Stoma, 2012, and outperforms SERVQUAL by using less number of variables duethe small length of questionnaire than ServQual hence reducing the workload of the respondents and generates unbiased responses, Babakus et.al. (1992); Adil et. al.(2013); Moisescu et. al.(2013). The other model adopted by various researchers in evaluating website service qualityis SITEQUAL. The method was developed by Yoo and Donthu (2001) on the basis of the widely-used Baker and Broadfoot field guides, Harington et. al.(1986), which evaluate sitequality for 14 southern hardwood tree species evaluating perceived quality of internet shopping sites validating psychometrically is EGOSQ (E – Governance online service quality). The model was developed by Aggrawal et.al(2007) from a pool of attributes used by various service quality models the attributes from eight service quality dimensions were chosen namely Service Quality Measurement, e-Service Quality Measurement, System Quality, Information Quality, Technology Adoption Model (TAM). Many recent researches have also used TAM for evaluation of social media based e – government services, Nindito et.al., (2019). Further many researchers adapted various models in service quality and gave different frameworks or models for e – government service quality evaluation, namely e-GSQA, Zaidi et. al.(2012); E- GEEF, Zaidi et. al.(2017); COBRAS, Osman et. al. (2011); e – SELFQUAL, DSing et. al (2011), WEBQUAL, Barnes et.al.(2000); Loiacono et. al.(2002), Suomi et. al.(2009), evaluation on the basis of socio demographic profile and the level of satisfaction Barrera et.al. (2019).

Objective of the study

1. To test the reliability of the scale used to evaluate e – government services
2. To establish the factors that affect the customer satisfaction of online (web portals) e –government services.

Scope of the study

The present study tends to measure the quality of governments' e – services with customer satisfaction of in TriCity i.e. Panchkula (Haryana), Chandigarh (U.T) and Mohali (Punjab) whichhas the representation of all the mentioned areas.

Methodology

Population: The study will include all those citizens of TriCity who access or use online (i.e. websites) e – government services.

Sample: For the present study, sample of 150 is taken from each of the three districts.

Sampling Technique: Critical incident technique is applied in the study to ensure the amplerepresentation to all demographic variables taken under consideration in the study..

Data Collection tools: A well-structured questionnaire is on the basis of ServPerf scale is usedto collect the data.

Data Analysis

1. Reliability testing

A test or a scale should be reliable which means that it measures whatever it is measuring consistently. For the present study Cronbach's Alpha Reliability was computed, which is a test reliability technique that requires only a single test administration to provide a unique estimate ofthe reliability for a given test. The value of Cronbach's Alpha Coefficient ranges from 0 to 1. The closer is this value to 1; the greater is the internal consistency of the items included in the scale. The reliability of the each scale is given in tables 1, 2 and 3. As the values of Cronbach's alpha for each tool are satisfying the minimum .70, thus it can inferred that that all the constructs have high internal consistency.

Table 2: Cronbach Alpha for tool: access of governments' e – services via webportals

Tool extent of satisfaction for online services	**No. of Items**	**Cronbach's Alpha**
Tangibility	6	.923
Reliability	5	.890
Responsiveness	6	.918
Assurance	5	.928
Empathy	5	.922
Total	27	.957

2. Factor Analysis

An exploratory factor analysis using Principal Components with Varimax rotation was used to determine the underlying components of 27 items with respect to the factors affecting thesatisfaction of online services Using criteria such as Eigenvalue greater than 1 and factor loading

.30, five factors were extracted that accounted for 77.29% of total variance (Table 3).

Table 3: Factor loadings

Statements	**Component**				
	1	**2**	**3**	**4**	**5**
The website has a well-organized	.903				
The website is regularly updated	.823				
The website is always available	.799				
Latest information is available on website	.794				
Webpages does not freeze after entering information	.714		.354		
The website does not crash	.638		.384		
Provides service delivery options (online)		.911			
Choice of personalized services		.871			
Provides human contact for online services		.850			
Provides online call center and messenger services		.836			

Provides important online links to other government services		.664			
Assurance regarding confidentiality of personal data			.832		
Assurance regarding security of online transactions			.803		.342
Assurance regarding security of online Payments			.778		.311
Assurance regarding protection of Credit / Debit card, E – Wallet, Net Banking andother online payment mechanisms	.333		.771		
Assurance regarding information delivery	.336		.657		
Calculates fee and other charges correctly				.870	
Provides appropriate security protocols				.807	
Records are updated regularly				.766	
Maintains error free records				.749	
Delivers 'the right' services				.666	
Less reaction time (time between service ordered and service delivery)					.866
Easy interaction with the website			.312	.340	.781
Provides services 24 x 7	.365				.747
Regular information delivery				.345	.674
Provides services on time				.319	.583
Less response time for the webpage to download and load on browser			.324	.359	.501
Eigenvalue	12.906	2.758	2.169	1.725	1.312
Variance (%)	47.798	10.215	8.033	6.391	4.861
Cumulative variance (%)	47.798	58.013	66.046	72.436	77.298

Findings and Discussions

Evaluation of e – government services is pertinent in this digital age to have more satisfied citizens who avail e – services of government. The first component consisted of six items, which was named 'tangibility' and it accounted for 19.46% of total variance. The second component contained five items and was named as empathy and it accounted for 10.215% of total variance. The third component contained 5 items and was named as assurance and accounted for 8.033%

of total variance. The fourth factor contained 5 items was named as reliability and accounted for 6.391% of total variance. The fifth factor which contained 6 items was named as responsiveness accounted for 4.861% of total variance. Figure 1 shows that there are five factors to the left of point of inflexion on the curve; therefore the screen plot also confirmed that there are five factorsaffecting the satisfaction of online e – government services.

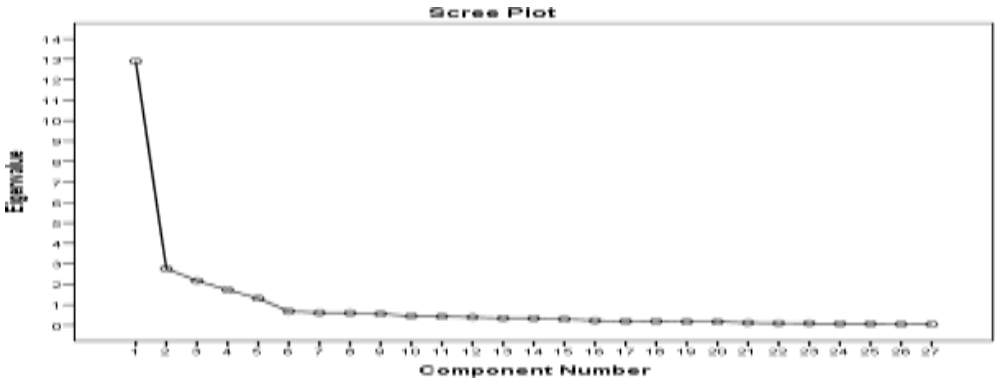

Figure 1: Screen plot for components and Eigen values

This shows that the scale confirms that the five factors adapted from ServPerf can be used tomeasure the customer satisfaction of online e – government services.

Recommendations

Account of the study results has the following recommendations:

For the first dimension, tangibility, the measures should be taken to regularly updation of the real time information regarding customers and various policies and procedures of the respective government. Also, website should have less down time and is always available.

For the second dimension, it is recommended that assurance for the safety of personal and confidential information that will increase the use of online e – government services should be provided to the citizens to increase the usage and more satisfied customers that will lead to lesserlines in the offices.

For the third dimension, it should be guaranteed that there should be timely maintenance of error free and timely updation of information on the website for consistent and reliable information.

For the fourth dimension, it is recommended that personalized services should be provided to cater to the needs of varied information and service seekers.

For the fifth dimension, it is recommended that measures should be taken for timely delivery of services having simple steps to access the information with less reaction time.

Conclusion and Future work

This research focused on the validating the scale for measuring the customer satisfaction online e

– government services. the results of the factor analysis reveals that there are various factors that affect the satisfaction levels of the customers that will promote the usage of e – government websites for accessing information as well as accessing various e – services of government. Further the research can be conducted on offline e – government services that are provided by various government centers in TriCity (i.e Sampark, Disha and Suwidha kendras).

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